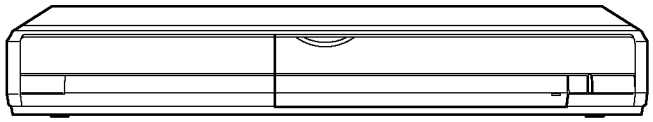
ORDER NO.DSD0705007CE

Service Manual

DVD Recorder



Model No. **DMR-EX77EG**
DMR-EX77EC
DMR-EX77EC1
DMR-EX77EB
DMR-EX87EG
DMR-EX87EC
DMR-EX87EC1
DMR-EX87EB

Notes: This model's RAM/Digital P.C.B. Module are - RFKNEX77EG(EG)
- RFKNEX77EC(EC,EC1)
- RFKNEX77EB(EB)
- RFKNEX87EG(EG)
- RFKNEX87EC(EC,EC1)
- RFKNEX87EB(EB).

When replacing Main P.C.B. or EEPROM, "UNFORMAT" indication is displayed and HDD must be formatted.

When replacing HDD, it is necessary to update the firmware.
Please prepare the update disc.
(After that, FORMAT is necessary)

After that, programme in the HDD will be lost.
In detail, please refer to each content in this service manual.

Caution:
Pairing of RAM Drive and Digital P.C.B. as "RAM/ Digital P.C.B. Module" have to be replaced together. If the either RAM drive or Digital P.C.B. are changed, RAM Drive unit has to be re-aligned. Because the alignment data for RAM Drive Unit is stored in Digital P.C.B..

Vol. 1

Colour

(S).....Silver Type (EX77EG/EC/EC1/EB)

(K).....Black Type

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 Safety Precaution

1.1. General guidelines

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1.1.1. Leakage current cold check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1MΩ and 5.2MΩ.

   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

1.1.2. Leakage current hot check (See Figure 1 .)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5kΩ, 10 watts resistor, in parallel with a 0.15µF capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliampere. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

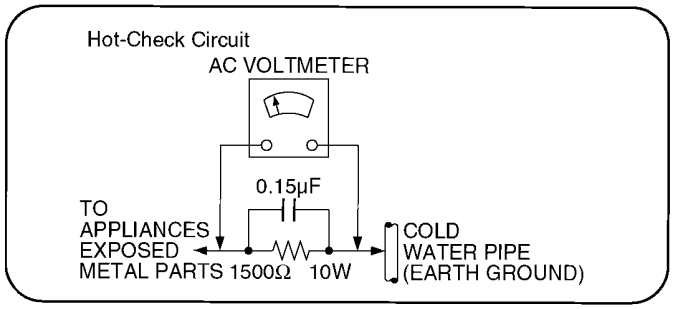


Figure 1

2 Warning

2.1. Prevention of Electrostatic Discharge (ESD) to Electrostatic Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatic Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistor-sand semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electrostatic discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   Caution

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety.
These parts are marked by ⚠ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2.2. Precaution of Laser Diode

CAUTION:

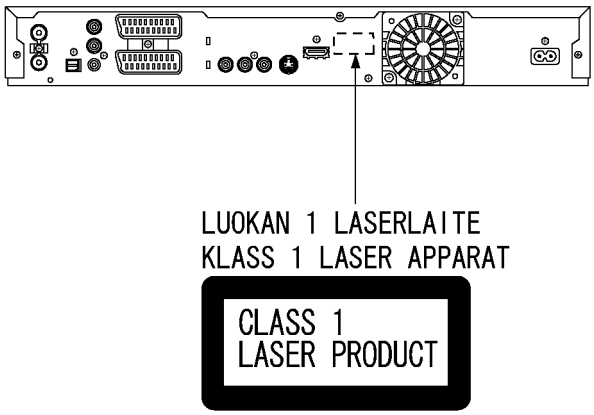
This product utilizes a laser diode with the unit turned “on”, invisible laser radiation is emitted from the pickup lens.
Wave length: 662 nm (DVDs)/780 nm (CDs)
Maximum output radiation power from pickup: 100 μ W/VDE
Laser radiation from the pickup lens is safety level,but be sure the followings:

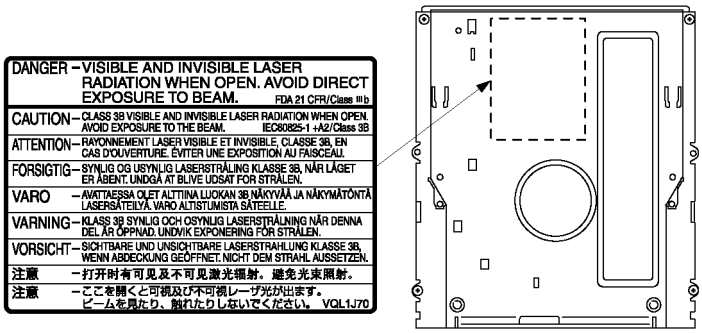
1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

ACHTUNG:

Dieses Produkt enthält eine Laserdiode.
Im eingeschalteten Zustand wird unsichtbare Laserstrahlung von der Laserinheit abgestrahlt.
Wellenlänge: 662 nm (DVDs)/780 nm (CDs)
Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE
Die Strahlung der Lasereinheit ist ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinheit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlinse blicken.
4. Nicht über längere Zeit in die Fokussierlinse blicken.




DANGER – VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. FDA 21 CFR/Class IIIb
CAUTION – CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO THE BEAM. IEC60825-1 +A2/Class 3B
ATTENTION – RAYONNEMENT LASER VISIBLE ET INVISIBLE, CLASSE 3B, EN CAS D'OUVERTURE. ÉVITER UNE EXPOSITION AU FAISCEAU.
FORSIGTIG – SYNLIG OG USYNLIG LASERSTRÅLING KLASSE 3B, NÅR LÅGET ER ÅBENT. UNDGÅ AT BLIVE UDSAT FOR STRÅLEN.
VARO – AVATTAESSA OLET ALTTIINA LUOKAN 3B NÄKYVÄÄ JA NÄKYMÄTÖNTÄ LASERSÄTEILYÄ. VARO ALTISTUMISTA SÄTEELLE.
VARNING – KLASS 3B SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. UNDVIK EXPONERING FÖR STRÅLEN.
VORSICHT – SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG KLASSE 3B, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注意 – 打开时有可见及不可见激光辐射。避免光束照射。
注意 – ここを開くと可視及び不可視レーザ光が出ます。ビームを見たり、触れたりしないでください。 VQL1J70

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

2.3. Service caution based on legal restrictions

2.3.1. General description about Lead Free Solder (PbF)

The lead free solder has been used in the mounting process of all electrical components on the printed circuit boards used for this equipment in considering the globally environmental conservation.

The normal solder is the alloy of tin (Sn) and lead (Pb). On the other hand, the lead free solder is the alloy mainly consists of tin (Sn), silver (Ag) and Copper (Cu), and the melting point of the lead free solder is higher approx.30 degrees C (86°F) more than that of the normal solder.

Definition of PCB Lead Free Solder being used

The letter of “PbF” is printed either foil side or components side on the PCB using the lead free solder. (See right figure)	PbF

Service caution for repair work using Lead Free Solder (PbF)

- The lead free solder has to be used when repairing the equipment for which the lead free solder is used.
  (Definition: The letter of “PbF” is printed on the PCB using the lead free solder.)
- To put lead free solder, it should be well molten and mixed with the original lead free solder.
- Remove the remaining lead free solder on the PCB cleanly for soldering of the new IC.
- Since the melting point of the lead free solder is higher than that of the normal lead solder, it takes the longer time to melt the lead free solder.
- Use the soldering iron (more than 70W) equipped with the temperature control after setting the temperature at 350±30 degrees C (662±86°F).

Recommended Lead Free Solder (Service Parts Route.)

- The following 3 types of lead free solder are available through the service parts route.
  RFKZ03D01K----------(0.3mm 100g Reel)
  RFKZ06D01K----------(0.6mm 100g Reel)
  RFKZ10D01K----------(1.0mm 100g Reel)

Note

* Ingredient: tin (Sn), 96.5%, silver (Ag) 3.0%, Copper (Cu) 0.5%, Cobalt (Co) / Germanium (Ge) 0.1 to 0.3%

3 Service Navigation

3.1. Service Information

This service manual contains technical information which will allow service personnel's to understand and service this model.
Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplement service manual to be filed with original service manual.

1) This service manual does not contain the following information, because of the impossibility of sevicing at component level.

   * Schematic Diagram, Block Diagram and P.C.B. layout for RAM/Digital P.C.B. Module and Back End P.C.B..
   * Parts List of individual parts for RAM/Digital P.C.B. Module and Back End P.C.B..
   * Exploded View and Parts List of individual parts for RAM/Digital P.C.B. Module and Back End P.C.B..

2) The following category are recycle module part. Please send them to Central Repair Center.

   * RAM/Digital P.C.B. Module
   (EX77EG: RFKNEX77EG, EX77EC/EC1: RFKNEX77EC, EX77EB: RFKNEX77EB,
   EX87EG: RFKNEX87EG, EX87EC/EC1: RFKNEX87EC, EX87EB: RFKNEX87EB)
   * Back End P.C.B.
   (EX77/87EG: RFKB77112B, EX77/87EB: RFKB77112A, EX77EC/EC1, EX87EC/EC1: RFKB77112C)

3.2. Caution for DivX (Except EB)

Please will always pass the customer "Warning for Customers Who Use the DivX Video-on-Demand content." with the product and get it when you unavoidably exchange EEPROM or P.C.B. including EEPROM (When the product is exchanged, it is the same.).
You must use print attached to service part (EEPROM or P.C.B. including EEPROM) or must use copy of print below as "Warning for Customers who use the DivX Video-on-Demand content."
Information needed without fail for the customer for whom it is used continuing DivX Video-on-Demand Service to "Manual for the customer" is recorded.

Appendix:

* Parts that memorize user's information are only EEPROM.
* The registration of Registration Code is possible for half a year up to 6 recorders up to 10 recorders a year. Replacement of EEPROM or P.C.B. including EEPROM spends one of this.

Registration Code is memorized in EEPROM (RFKFxxxxxx).
Model without VHS: Main P.C.B.
Model with VHS: Digital I/F P.C.B. (Power & DVD I/F/P.C.B.)
If exchange above P.C.B. or EEPROM, new registration Code differ from previous Registration Code will be generated. In this case if your customer uses DivX Video-on-Demand service, he/she will no longer be able to play any content that he/she purchased under that same registration code.
Therefore your customer will need to obtain and register the new registration code.

*Copy this page and cut on the dotted line and give the lower half to your customer.

Warning for Customers who use the DivX Video-on-Demand content.

1. The registration code has been changed for the repair of the product or the product exchange.
2. Obtain and register a new registration code, otherwise you will no longer be able to play DivX Video-on-Demand content.
3. Follow the procedure on the DivX Video-on-Demand web site to register at
   http://vod.divx.com/
   * If you do not use the DivX Video-on-Demand content, please ignore this warning.

4 Specifications

Power supply:	AC220 – 240V 50Hz
Power consumption:	DMR-EX77: Approx. 35W DMR-EX87: Approx. 36W
Power consumption in standby mode:	Approx. 2W (Power save mode) DMR-EX77: Approx. 16W (Quick start mode) DMR-EX87: Approx. 17W (Quick start mode)
Operating temperature:	5 ºC - 40 ºC
Operating humidity range:	10% - 80%RH (no condensation)

Television system

DMR-EX77EC/EC1, EX87EC/EC1

Tuner system:	PAL-BGH, SECAM-BG	SECAM-L, L'	DVB-T		
Channel Coverage :	CCIR	France	France	Italy	Spain
VHF:	E2–E12, A–H2(Italy)	2-10 5-10		D-H2	5-12
UHF:	21-69	21-69	21-69	21-69	21-69
CATV:	S01-S05 (S1-S3) S1-S20 (M1-U10) S21-S41	B-Q (100.5-299.5MHz) S21-S41 (299.25-467.25MHz)			

DMR-EX77EG, EX87EG

Tuner system:	PAL-BGH, SECAM-BG	DVB-T
Channel Coverage:	CCIR	Germany
VHF:	E2–E12, A–H2(Italy)	5-12
UHF:	21-69	21-69
CATV:	S01-S05 (S1-S3) S1-S20 (M1-U10) S21-S41	

DMR-EX77EB, EX87EB

Tuner system:	DVB-T
Channel Coverage:	UK
UHF:	21-68

RF Converter output:	Not provided

Video

Video system:	PAL colour signal, 625 lines, 50 fields (EB only) SECAM (only input)/PAL colour signal, 625 lines, 50 fields (Except EB) NTSC colour signal, 525 lines, 60 fields
Recording system:	MPEG2 (Hybrid VBR)
Video In (PAL/NTSC):	AV1/AV2 (21 pin), AV3 (pin jack) 1Vp-p 75 termination
S-Video in (PAL/NTSC):	AV2 (21 pin), AV3 (S terminal) 1Vp-p 75 termination
RGB in (PAL):	AV2 (21 pin) 0.7Vp-p (PAL) 75 termination
Video out (PAL/NTSC):	AV1/AV2 (21 pin), Video Out (pin jack) 1Vp-p 75 termination
S-Video out (PAL/NTSC):	AV1 (21 pin), S-Video Out (S terminal) 1Vp-p 75 termination
RGB out (PAL/NTSC):	AV1 (21 pin) 0.7Vp-p (PAL) 75 termination
Component video output (NTSC 480p/480i, PAL 576p/576i)	Y: 1.0Vp-p 75 termination PB: 0.7Vp-p 75 termination PR: 0.7Vp-p 75 termination

Recording time

Approx.

Rec. Mode	DVD-RAM		DVD-R/ DVD-RW/ +R/+RW/ 4.7GB	DVD-R DL 8.5GB	+R DL 8.5GB	Hard Disc	
	4.7GB	9.4GB (Double side)				160GB (EX77)	250GB (EX87)
XP	1h.	2h.	1h.	1h.45m.	1h. 45m.	36h.	55h.
SP	2h.	4h.	2h.	3h.35m.	3h. 35m.	70h.	1 11h.
LP	4h.	8h.	4h.	7h.10m.	7h.10m.	138h.	222h.
EP (6h)	6h.	12h.	6h.	10h.45m.	-	212h.	333h.
EP (8h)	8h.	16h.	8h.	14h.20m.	-	284h.	443h.

Approximate copying times (Max. speed)

On Hard disc		5x speed DVD-RAM		12x speed DVD-R (*1)	
Recording mode	Recorded program	Required time	Speed	Required time	Speed
XP	1h.	12m.	5x	5m.46s.	10x
SP	1h.	6m.	10x	2m.30s.	24x
LP	1h.	3m.	20x	1m.21s.	44x
EP(6h)	1h.	2m.	30x	58s.	62x
EP(8h)	1h.	1m30s.	40x	48s.	75x

4x speed DVD-R DL (Dual layer) (*4)		4x speed DVD-RW (*2)		8x speed +R (*3)	
Required time	Speed	Required time	Speed	Required time	Speed
15m	4x	15m.	4x	8m.20s.	7x
7m30s	8x	7m.30s.	8x	3m.45s.	16x
3m45s	16x	3m.45s.	16x	1m.53s.	32x
2m30s	24x	2m.30s.	24x	-	-
1m53s	32x	1m.57s.	31x	-	-

4x speed +R DL (Double layer) (*4)		4x speed +RW	
Required time	Speed	Required time	Speed
15m.	4x	15m.	4x
7m.30s.	8x	7m.30s.	8x
3m.45s.	16x	3m.45s.	16x
-	-	-	-
-	-	-	-

NOTE) The above rated value indicates the fastest time and speed required for copying one-hour title from HDD to each disc in the above list supporting High-Speed copying. The amount of time and speed may vary depending on the conditions such as the area on where information is written or unique feature on the disc.

*1: In this unit, copying with 16X Speed DVD-R disc will be performed at the same speed as 12X Speed DVD-R takes.

*2: In this unit, copying with 6X Speed DVD-RW disc will be performed at the same speed as 4X Speed DVD-RW disc takes

*3: In this unit, copying with 16X Speed +R disc will be performed at the same speed as 8X Speed +R disc takes.

*4: In this unit, copying with 8X Speed discs, DVD-R DL and +R DL, will be performed at the same speed as 4X Speed discs, DVD-R DL and +R DL, take.

Audio	
Recording System:	Dolby Digital 2ch, Linear PCM (XP mode)
Audio in:	AV1/AV2 (21 pin), AV3 (pin jack)
Input level:	Standard: 0.5Vrms, Full scale: 2.0Vrms at 1 kHz
Input impedance:	More than 10k
Audio out:	AV1/AV2 (21 pin), Audio Out (pin jack)
Output level:	Standard: 0.5 Vrms, Full scale: 2.0 Vrms at 1 kHz
Output impedance:	Less than 1k
Digital audio out:	Optical terminal (PCM, Dolby Digital, DTS, MPEG)
HDMI Output:	19 pin type A: 1 pc
Internal HDD capacity	DMR-EX77: 160GB DMR-EX87: 250GB
DV input:	IEEE 1394 Standard, 4 pin: 1 pc
SD Card Slot	1pc
Recordable discs	
DVD-RAM:	2X SPEED (Ver. 2.0), 2-3X SPEED (Ver. 2.1) 2-5X SPEED (Ver. 2.2)
DVD-R (SL):	1X SPEED (Ver. 2.0) 1-4X SPEED (Ver. 2.0) 1-8X SPEED (Ver. 2.0) 1-16X SPEED (Ver. 2.1)
DVD-R DL:	2-4X SPEED (Ver. 3.0) 2-8X SPEED (Ver. 3.0)
DVD-RW:	1X SPEED (Ver. 1.1) 1-2X SPEED (Ver. 1.1) 2-4X SPEED (Ver. 1.2) 2-6X SPEED (Ver. 1.2)
+R (SL):	2.4X SPEED (Ver. 1.0) 2.4-4X SPEED (Ver. 1.1) 2.4-8X SPEED (Ver. 1.2) 2.4-16X SPEED (Ver. 1.3)
+R (DL):	2.4X SPEED (Ver. 1.0) 2.4-8X SPEED (Ver. 1.1)
+RW:	2.4X SPEED (Ver. 1.1) 2.4-4X SPEED (Ver. 1.2)
Optical pick-up	System with 1 lens, 2 integration units (662 nm wavelength for DVDs, 780 nm wavelength for CDs)
LASER specification	Class 1 LASER Product (Pickup) Wave length: CD 780 nm wave length DVD 662 nm wave length Laser power: No hazardous radiation is emitted with the safety protection
Quick Start for Recording & EPG display (Quick start: ON: EC/EG only) (Power save: off: EB only)	1 Sec. Quick Start for Recording & EPG Display (*6) (When connecting to TV using 21-pin Scar, Component Vide, Video or S- Video terminals) *6: From the power on, recording on DVD-RAM and HDD starts in about 1 second after the REC button is pressed. If the GUIDE button is pressed while the unit is off, the Electric Program Guide (EPG) displays in less than 1 second. (Quick Start Mode)
Region Code	#2
Playable discs	

DVD-RAM : DVD Video Recording format
DVD-R : DVD-Video format, MP3, JPEG, DivX(Except EB)
DVD-R DL (Dual layer): : DVD-Video format, MP3, JPEG, DivX(Except EB)
DVD-RW : DVD-Video format, DVD Video Recording format
+R, +R DL(Double Layer), +RW
DVD-VIDEO, DVD-AUDIO(DMR-EX87 only)
CD-Audio (CD-DA), Video CD, SVCD
CD-R/CD-RW : CD-DA, Video CD, SVCD, MP3, JPEG, DivX(Except EB)

Completion method
*5: Total number of recognizable file including MP3, JPEG, DivX(except EB) and other type of files is 4000.

DVD(DivX)(Except EB), CD(DivX)(Except EB),	Plays all versions of DivX video (including DivX 6) with standard playback of DivX media files. Certified to the DivX Home Theater Profile. GMC (Global Motion Completion) is not supported.
DVD(DivX)(Except EB), CD(DivX)(Except EB) Common Items	Maximum number of folders: 300 Recognizable folders per disc on this unit (including the root folder) Maximum number of DivX files: 200 Recognizable DivX files per disc on this unit (*5)
DVD(MP3), CD(MP3)	Format: ISO9660 level 1 or 2 (except for extended formats), Joliet Compatible completion rate: 32kbps - 320kbps Compatible sampling rate: 16kHz, 22.05kHz, 24kHz, 32kHz, 44.1kHz, 48kHz This unit is not compatible with ID3 tags.
DVD(JPEG), CD (JPEG)	Format: ISO9660 level 1 or 2 (except for extended formats), Joliet Compatible pixels: between 34×34 and 6144×4096 pixels Sub Sampling 4:2:2 or 4:2:0 This unit is not compatible with MOTION JPEG.
DVD(MP3), CD(MP3), DVD(JPEG), CD(JPEG) Common Items	Maximum number of folders: 300 Recognizable folders per disc on this unit (including the root folder) Maximum number of MP3 files: 3000 Recognizable MP3 files per disc on this unit (*5) Maximum number of JPEG files: 3000 Recognizable JPEG files per disc on this unit (*5) This unit is compatible with multi-session. This unit is not compatible with packet writing.
SVCD Format	: IEC62107 This unit is not compatible with “Chaoji VCD” available on the market including CVD, DVCD and SVCD that do not conform to IEC62107.
HDMI:	HDMI Ver.1.3a (This unit supports “HDAVI Control 2” function.)
SD Card	Slot: SD Memory Card slot: 1 pc Compatible media: SD Memory Card(*7), SDHC Memory Card(*8), Multi Media Card Format: FAT12, FAT16(*9) (In case of SD Memory Card/Multi Media Card) FAT32(*9) (In case of SDHC Memory Card) Still picture (JPEG) Image file format: JPEG conforming DCF (Design rule for Camera File system), sub sampling; 4:2:2 or 4:2:0 Compatible pixels: Between 34 × 34 and 6144 × 4096 Thawing time: Approx. 1.9 sec (6 M pixels, JPEG) Video (SD-Video) (*10) Codec: MPEG 2 (SD-Video Entertainment Video Profile) File Format: SD-Video format conforming *7: Includes miniSD cards. (A miniSD adaptor needs to be inserted.) *8: Class is not supported. *9: Long file name is unsupported. *10: Video Recording conversion and transfer is possible from card to HDD or DVD-RAM disc. After Video Recording conversion and transfer to HDD or DVD-RAM disc, the playback is possible.

Recording System

DVD-RAM : DVD Video Recording format
DVD-R : DVD-Video format
DVD-R DL (Dual layer): DVD-Video format
DVD-RW : DVD-Video format
+R, +R DL(Double Layer), +RW

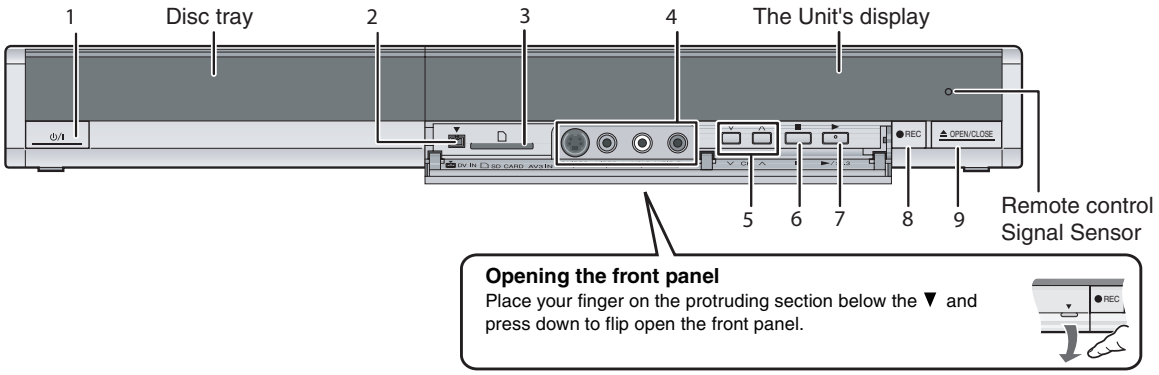
Dimensions:	430mm(W) × 59mm(H) × 330mm(D)
Mass:	Approx. 4.2kg

5 Location of Controls and Components

Followings are the Location of Controls and Components for DMR-EX77EB, DMR-EX87EB as a sample.

For other model, refer to each Operation Instructions.

Main unit



Opening the front panel

Place your finger on the protruding section below the ▼ and press down to flip open the front panel.

1 Standby/on switch (⏻/I)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
2 DV IN terminal (for digital video camcoder)
3 SD Card slot
4 AV3 input terminals
5 Channel select button
6 Stop button
7 Play/x1.3 button
8 Start recording button
9 Open/close disc tray

Inserting, Removing the SD Card

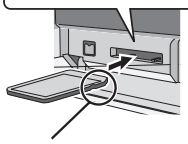
When the card indicator ("SD") on the unit's display is flashing, the card is being read from or written to. Do not turn off the unit or remove the card. Such action may result in malfunction or loss of the card's contents.

Inserting foreign objects can cause a malfunction.

You can use SD Cards with capacities from 8 MB to 4 GB.

Inserting the card

Press on the centre of the card until it clicks into place.

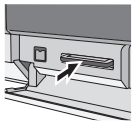


Insert the card label up with the cut-off corner on the right.

If you are using a miniSD card, insert it into the miniSD card adaptor that comes with the card.
Insert and remove this adaptor from the unit.

Removing the card

1 Press on the centre of the card.
2 Pull it straight out.

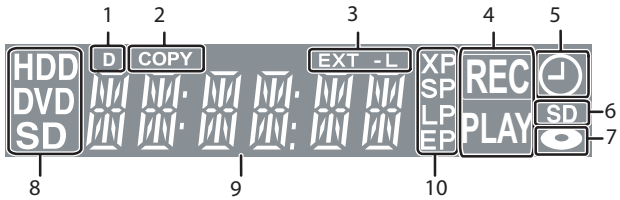


Automatic drive select function

If you insert an SD Card while the unit is stopped, the "SD Card" screen is displayed. Select an item and press [OK] to switch to the SD drive

If you remove an SD Card, the HDD drive is automatically selected.

The unit's display

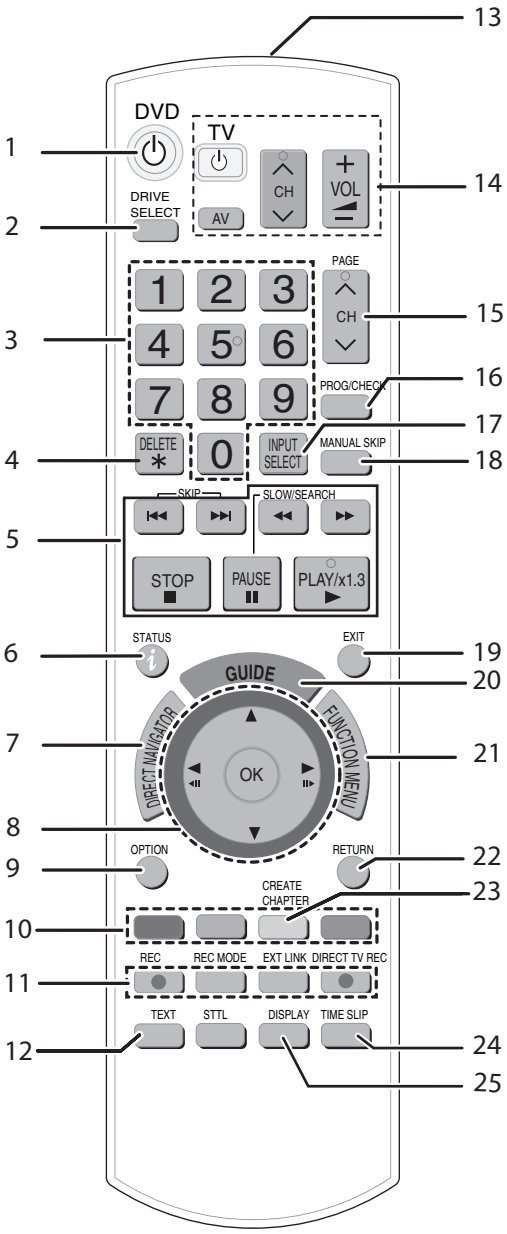


1 Digital broadcast indicator
Lights when the unit is receiving digital broadcast or TV Guide data
2 Copying indicator
3 Linked timer recordings with external equipment indicator
4

Recording indicator	Playback indicator	Recording/ Playback indicator
REC	PLAY	REC PLAY

5 Timer recording indicator
On:
When a Timer recording programs is registered
Flashes:
The Timer recording indicator flashes when the unit cannot go to Timer recording standby.
6 SD Card slot indicator
7 Disc indicator
This indicator lights up when a disc that is supported by this unit is inserted.
8 Drive [HDD, DVD or SD] indicator
9 Main display section
Current time/playback counter, various messages.
10 Recording mode indicator

Remote control



1 Turn the unit on or off
2 Select drive [HDD, DVD or SD
3 Select channels and title numbers, etc./Enter numbers
4 Delete items
5 Basic operations for recording and play
6 Show the digital channel information
/Programme information in TV Guide screen
/Show status messages
7 Show Top Menu/DIRECT NAVIGATOR
8 Selection/OK, Frame-by-frame
9 Show OPTION menu
10 Use Colour buttons according to on-screen instructions
These buttons are for TV Guide/Digital TEXT/Edit Profiles
In addition,
"Red": Timer recording list/DIRECT NAVIGATOR
"Green": DIRECT NAVIGATOR
"Blue": Digital channel information/Timer recording list
11 Recording function
[● REC]: Start recording
[REC MODE]: Change recording mode
[EXT LINK]: Linked timer recordings with external equipment
[●DIRECT TV REC]: Direct TV recording
12 DVB function
[TEXT]: Show Digital TEXT (MHEG) service
[STILL]: Show subtitles
13 Transmission window
14 TV operations
15 Channel select/Change pages in the TV Guide list
16 Show timer recording list
17 Input select (Tuner, AV1, AV2, AV3, DV)
18 Skip approx. 30 seconds forward
19 Exit the menu screen
20 Show the TV Guide screen
21 Show FUNCTION MENU window
22 Return to previous screen
23 Create chapters
24 Skip the specified time
25 Show on-screen display
Menu for disc playback and switching DVB multi audio etc.

6 Operation Instructions

6.1. Taking out the Disc from DVD-Drive Unit when the Disc cannot be ejected by OPEN/CLOSE button

6.1.1. Forcible Disc Eject

6.1.1.1. When the power can be turned off.

1. Turn off the power and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

6.1.1.2. When the power can not be turned off.

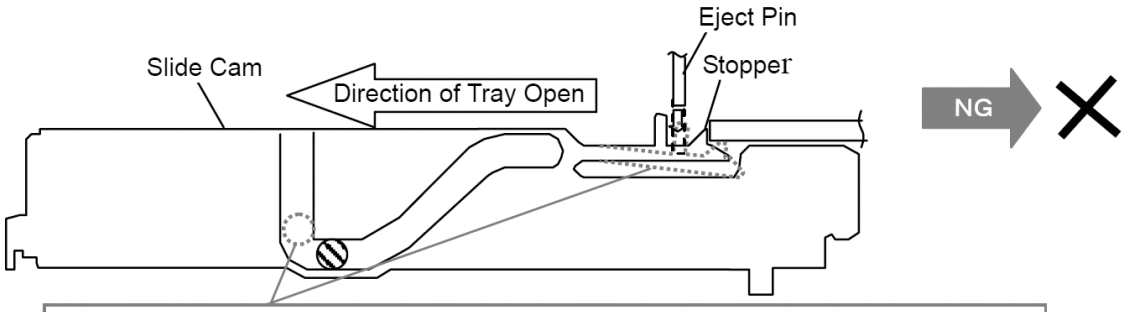
1. Press [POWER] key on the front panel for over 10 seconds to turn off the power forcibly, and press [STOP] [CH UP] keys on the front panel simultaneously for 5 seconds.

6.1.2. When the Forcible Disc Eject can not be done.

Caution!

1: If you push strong and move the Slide Cam to counter direction of the arrow, the Stopper will be bended and Slide Cam won't stop at Stopper and will reach position for taking out Traverse Base. And Traverse Base might fall down later.

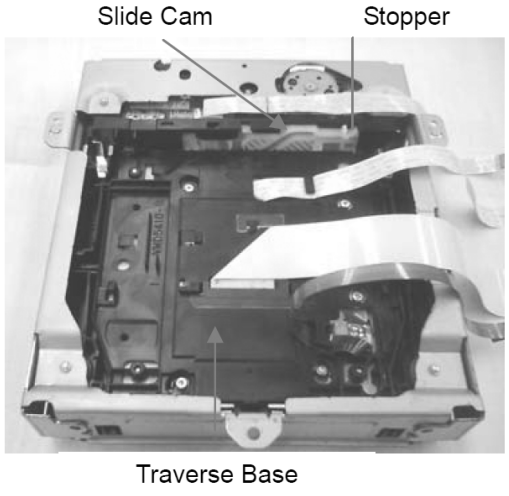
Absolutely, please do not move Slid Cam in the counter direction of the arrow.



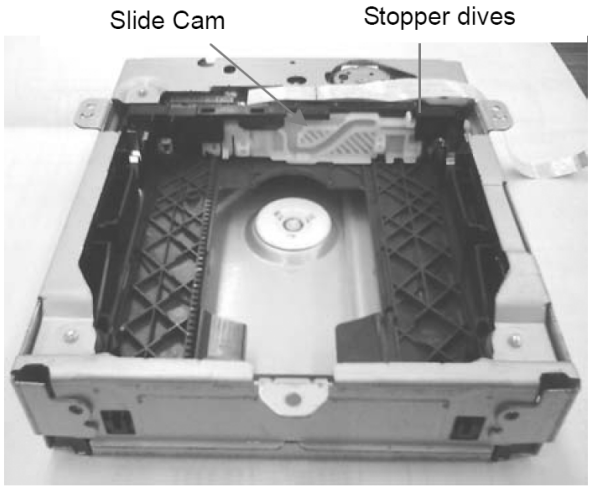
NG Position (Traverse Base might fall down later)

If you move the Slide Cam to counter direction of the arrow, Slide Cam won't stop at Stopper and will reach position for taking out Traverse Base. And Traverse Base might fall down later.

Before fall down of Traverse Base



After fall down of Traverse Base

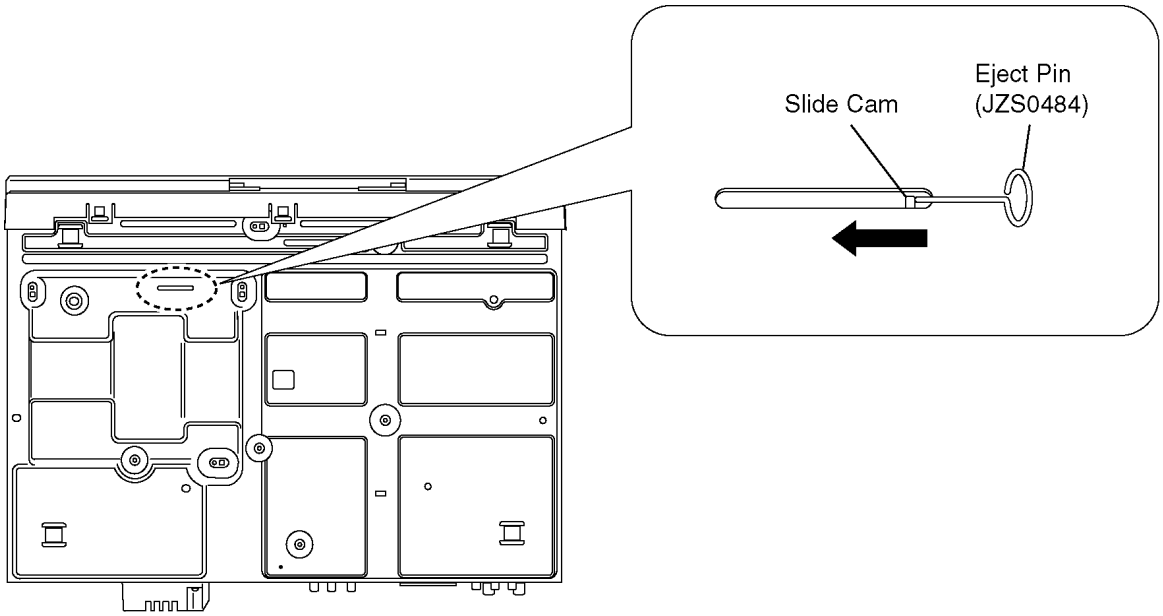


2: Moreover, the slide cam will be on irregular position against condition of the shipment if the tray is pushed by the hand after manual tray ejection is done, the hold of traverse Base becomes imperfect, and the danger of fall of traverse Base increases.

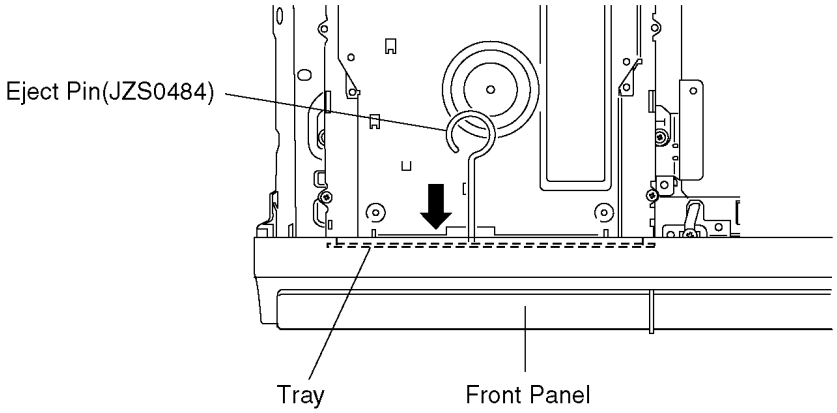
Absolutely, complete close of tray by electricity after manual tray ejection was done.

(Especially finish CLOSE function of tray by electricity when the product will be transported after inspection.

1. Turn off the power and pull out AC cord.
2. Remove the Top Case.
3. Put deck so that bottom can be seen.
4. Slide SLIDE CAM by Eject Pin (JZJ0484) or minus screw driver (small) in the direction of arrow to eject tray slightly.



5. Put deck upward, and push out Tray by Eject Pin (JZS0484) or minus screw driver (small).



7 Service Mode

7.1. Self-Diagnosis and Special Mode Setting

7.1.1. Self-Diagnosis Functions

Self-Diagnosis Function provides information for errors to service personnel by “Self-Diagnosis Display” when any error has occurred.

U, H** and F** are stored in memory and held.**

You can check latest error code by transmitting [0] [1] of Remote Controller in Service Mode.

Automatic Display on FL will be cancelled when the power is turned off or AC input is turned off during self-diagnosis display is ON.

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
U30	Remote control code error	Display appears when main unit and remote controller codes are not matched.	No display	DVD * “*” is remote controller code of the main unit. Display for 5 seconds.
U50 (For EG only)	Antenna Short	U50 is displayed when a short circuit was detected at Antenna Input while "Active Antenna” of “Connection” of “Setup” of “To Others” of “FUNCTION MENU” is ON, And then “Active Antenna" is compulsorily switched to "Off".	“A short circuit was detected at the antenna input. Please check your antenna.”	U50
U59	Abnormal inner temperature detected	Display appears when internal temperature of deck reaches limit temperature. The power is turned off forcibly. For 30 minutes after this, all key entries are disabled. (Fan motor operates at the highest speed for the first 5 minutes. For the remaining 25 minutes, fan motor is also stopped.) The event is saved in memory as well.	No display	U59 “U59 is displayed for 30 minutes.
U61	The unit is carrying out its recovery process. (with no disc in the disc tray)	・The unit detected an error while recording or playing with no disc in the disc tray. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.	No display	U61
U71	HDMI incompatible error (HDCP incompatible)	Display this error when the equipment (compatible with DVI such as TV, amplifier etc.) connected to the unit by HDMI is incompatible with HDCP. *HDCP=High-bandwidth Digital Content Protection	No display	U71
U72	HDMI connection error (communication error)	This error is displayed when there are any communication problems with the unit and the equipments (TV, amplifier etc.) connected to the unit by HDMI. (or when there is a problem with the HDMI cable)		U72 U72 display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.
U73	HDMI connection error (authentication error)	When authentication error occurs while the equipments (TV, amplifier etc.) are connected by HDMI. (or when there is a problem with the HDMI cable)	No display	U73 U72 display disappears when error has been solved by Power OFF/ON of connecting equipment or by inserting/removing of HDMI cable.
U80	ST Microprocessor Communication Error on Timer Bus	Display appears when ST Microprocessor Communication Error on Timer Bus occurs.	No display	U80 "U80" is displayed till Power Key is pressed.
U81	ST Microprocessor Communication Error on UART	Display appears when ST Microprocessor Communication Error on DART occurs.	No display	U81 "U81" is displayed till Power Key is pressed.

Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
U88	The unit is carrying out its recovery process. (with a disc in the disc tray)	▪ The unit detected an error while recording or playing with a disc in the disc tray. The unit is carrying out its recovery process. This process restores the unit to normal operation. The unit is not broken. Wait until the message disappears.	No display	U88
U99	Hang-up	Displayed when communication error has occurred between Main microprocessor and Timer microprocessor.	No display	U99 Displayed is left until the [POWER] key is pressed.
H19	Inoperative fan motor	When inoperative fan motor is detected after powered on, the power is turned off automatically. The event is saved in memory.	No display	No display
F00	No error information	Initial setting for error code in memory (Error code Initialization is possible with error code initialization and main unit initialization.)	No display	No display
F58	Drive hardware error	When drive unit error is detected, the event is saved in memory.	No display	No display
F34	Initialization error when main microprocessor is started up for program recording	When initialization error is detected after starting up main microprocessor for program recording, the power is turned off automatically. The event is saved in memory.	No display	No display
F74	HDIM Device Key Communication error.	HDMI connection could not be authenticated due to a transfer malfunction. Factor of HDMI Device key-road failure ● When HDMI LSI is damaged. ● When the bus line of I2C doesn´t operate normally. ● When device key information recorded is damaged.	No display	F74
F75	HDIM Device Key Information error	HDMI connection could not be authenticated due to an internal data malfunction. Factor of HDMI Device key-road failure ● When HDMI LSI is damaged. ● When the bus line of I2C doesn´t operate normally. ● When device key information recorded is damaged.	No display	F75
UNSUPPORT	Unsupported disc error	*An unsupported format disc was played, although the drive starts normally. *The data format is not supported, although the media type is supported. *Exceptionally in case of the disc is dirty.	**“This disc is incompatible.”**	UNSUP ↓ PORT Display for 5 seconds.
NO READ	Disc read error	*A disc is flawed or dirty. *A poor quality failed to start. *The track information could not be read.	**“Cannot read. Please check the disc.”**	NOREAD
HARD ERR	Drive error	The drive detected a hard error.	“**DVD drive** error.”	Display for 5 seconds. HARD ↓ ERR
SELF CHECK	Restoration operation	Since the power cord fell out during a power failure or operation, it is under restoration operation. *It will OK, if a display disappears automatically. If a display does not disappear, there is the possibility that defective Digital P.C.B. / RAM drive.	No display	SELF ↓ CHECK
PLEASE WAIT	Unit is in termination process	Unit is in termination process now. “BYE” is displayed and power will be turned off. In case “Quick Start” of setup menu is ON, it is displayed in restoration operation for AC off.	No display	PLEASE ↓ WAIT

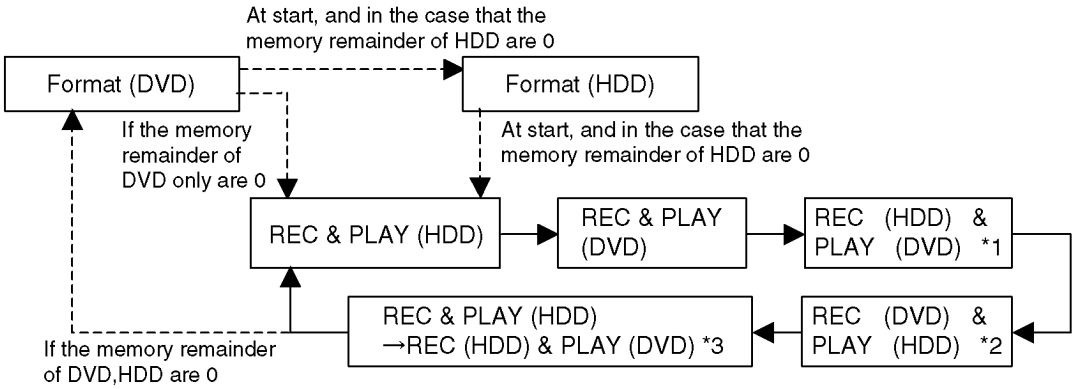
Error Code	Diagnosis contents	Description	Monitor Display	Automatic FL display
UNFORMAT	Unformatted disc error	You have inserted an unformatted DVD-RAM or DVD-RW that is unformatted or recorded on other equipment.	Format This disc is not formatted properly. Format the disc in DISK MANAGEMENT?	UNFOR ↓ MAT
IR ERR	IR communication error	[IR ERR] is displayed when communication between Timer microprocessor and IR microprocessor fails.	No display	IR ERR
No REC	Recording is impossible	[No REC] is displayed when recording is impossible due to the defect, dirt or wound of media.	No display	NoREC
HDD ERROR	[HDD ERR] is displayed when start up of HDD was failed. (Except error of setting of Power on Stand-by)	a) When normal start up was failed. b) When start up at HDD boot was failed. c) When start up from state of P-OFF was failed. d) When start up from state of HDD SLEEP was failed. [HDD ERR] is displayed when above each start up of HDD was failed. *In case b), tray opens automatically and [HDDERR] is displayed until version up disc is inserted.	No display	HDDERR
HDD NG	Power on Stand-by setting error	[HDD NG] is displayed when power on Stand-by setting of HDD is NG or when HDD which power on Stand-by is not set to is used. Please try to replace HDD with junine HDD as service parts.	No display	HDD NG

7.1.2. Special Modes Setting

Item		FL display	Key operation
Mode name	Description		Front Key
TEST Mode	*All the main unit´s parameters (include tuner) are initialized.	TM∗AV1	Press [STOP], [CH UP] and [OPEN/CLOSE] keys simultaneously for five seconds when power is off.
Rating password	The audiovisual level setting password is initialized to “Level 8”.	INIT	Open the tray, set DRIVE SELECT to DVD, and press [REC] and [PLAY] simultaneously for 5 seconds.
Service Mode	Setting every kind of modes for servicing. *Details are described in “**7.1.3. Service Mode at a glance**”.	SERV	When the power is off, press [CH UP], [OPEN/CLOSE] and [REC] keys simultaneously for 5 seconds.
Forced disc eject	Removing a disc that cannot be ejected. The tray will open and unit will shift to P-off mode. *When Timer REC is ON or EXT-LINK is ON, execute " Forced disc eject " after releasing Timer REC or EXT-LINK. *This command is not effective during "Child lock" is ON. While Demonstration Lock is being set, this Forced disc eject function is not accepted. If this command was executed while TIMER REC is being set, TIMER REC setting will be kept.	The display before execution leaves. ∗∗∗∗∗∗	When the power is off, press [STOP] and [CH UP] keys simultaneously for 5 seconds.
Child lock/unlock	Set or release “Child Lock”.	X HOLD	Press [ENTER] and [RETURN] by remote controller simultaneously until [X-HOLD] is displayed.
NTSC/PAL system select	To switch PAL/NTSC altemately.	The display before execution leaves. ∗∗∗∗∗∗	While the power is on (E-E mode), press [STOP] and [OPEN/CLOSE] simultaneously for 5 seconds.
Forced power-off	When the power button is not effective while power is ON, turn off the power forcibly. *When Timer REC is ON or EXT-LINK is ON, execute “Forced Power-off” after releasing Timer REC or EXT-LINK.	Display in P-off mode.	Press [Power] key over than 10 seconds.

Item		FL display	Key operation
Mode name	Description		Front Key
Aging	Perform sequence of modes as * Aging Description shown below continually. **Caution:** **All programs in DVD-RAM disc will be deleted because Formatting is done once in Aging process.**	Display following the then mode.	When the power is ON, press [STOP], [POWER] and [OPEN/CLOSE] simultaneously for over 5 seconds and less than 10 seconds. **NOTE1:** If Unit has not turned into Aging mode by operations shown above, execute TEST MODE once and re-execute operation shown above. (*All the main unit's parameters include tuner are initialized by TEST mode.) **NOTE2:** If the unit has hung-up because of pressing keys for over 10 seconds, once turn off the power, and re-execute this command. *When releasing Aging mode, press [POWER] key.

Aging Contents (Example):


At start, and in the case that the memory remainder of HDD are 0
Format (DVD)
Format (HDD)
If the memory remainder of DVD only are 0
At start, and in the case that the memory remainder of HDD are 0
REC & PLAY (HDD)
REC & PLAY (DVD)
REC (HDD) & PLAY (DVD) *1
REC & PLAY (HDD) →REC (HDD) & PLAY (DVD) *3
REC (DVD) & PLAY (HDD) *2
If the memory remainder of DVD,HDD are 0

*1 : REC (HDD) & PLAY (DVD) content of operation
HDD→REC, DVD→PLAY, CUE, REV, PLAY, PAUSE, SLOW, R-SLOW, PLAY, PROGRAM NAVI
*2 : REC (DVD) & PLAY (HDD) content of operation
DVD→REC, HDD→PLAY, CUE, REV, PLAY, PAUSE, SLOW, R-SLOW, PLAY, PROGRAM NAVI, TRAY OPEN/CLOSE
*3 : REC & PLAY (HDD)→REC (HDD) & PLAY (DVD) content of operation
HDD→REC & PLAY, DVD→PLAY, TRAY OPEN/CLOSE

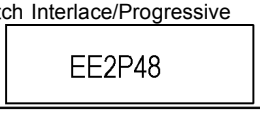
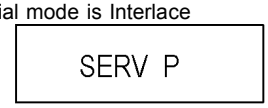
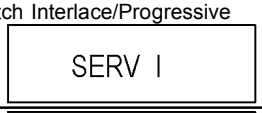
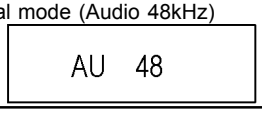
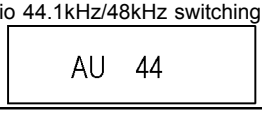
Demonstration lock/unlock	Ejection of the disc is prohibited. The lock setting is effective until unlocking the tray and not released by "Main unit initialization" of service mode.	*When lock the tray. LOCK "LOCK" is displayed for 3 seconds.	When the power is on, press [STOP] and [POWER] keys simultaneously for 5 seconds in the condition that a disc in the tray. **NOTE:** Time difference between pressing [STOP] and [POWER] should be within 0.5 sec.
		*When unlock the tray. UNLOCK "UNLOCK" is displayed for 3 seconds.	When the power is on, press [STOP] and [POWER] keys simultaneously for 5 seconds while the tray being locked. **NOTE:** Time difference between pressing [STOP] and [POWER] should be within 0.5 sec.
		*When press OPEN/CLOSE key while the tray being locked. LOCK Display "LOCK" for 3 seconds.	Press [OPEN/CLOSE] key while the tray being locked.
ATP re-execution	Re-execute ATP.	Display at ATP executing. ******	When the power is on (E-E mode), press [CH UP] and [CH DOWN] simultaneously for 5 seconds.

Item		FL display	Key operation
Mode name	Description		Front Key
Progressive initialization	The progressive setting is initialized to Interlace.	The display before execution leaves. ******	When the power is on (E-E mode), press [STOP] and [PLAY] simultaneously for 5 seconds.

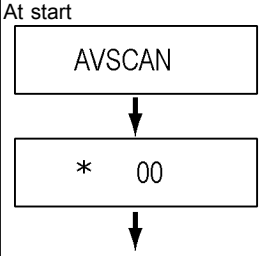
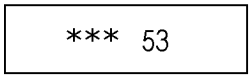
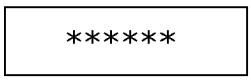
7.1.3. Service Modes at a glance

Service mode setting: While the power is off, press **REC, CH UP and OPEN / CLOSE** simultaneously for five seconds.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Release Items	Item of Service Mode executing is cancelled.	SERV	Press [0] [0] or [Return] in service mode.
Error Code Display	Last Error Code of U/H/F held by Timer is displayed on FL. *Details are described in **"7.1.1. Self-Diagnosis Functions".**	♣□□ *♣ shows U/H/F. □□ shows number. If any error history does not exist, [F00] is displayed.	Press [0] [1] in service mode
ROM Version Display	1. Region code (displayed for 5 sec.) 2. Main firm version (displayed for 5 sec.) 3. Timer firm version (displayed for 5 sec.) 4. Drive firm version (displayed for 5 sec.) 5. ROM correction version (displayed for 5 sec.) 6. ST Microprocessor version (left displayed)	1. NO * *: Region of DVD (Example: 1,2.....) 2. ****** 3. ****** 4. **** 5. *** 6. ST *** * are version displays.	Press [0] [2] in service mode
White Picture Output	White picture is output as component Output from AV Decoder. *White picture (Saturation rate : 100%) *It is enable to switch Interlace/Progressive by "I/P switch: [1] [4]"	*Initial mode is "Interlace". WHIT I	Press [1] [1] in service mode.
		Switch Interlace/Progressive WHIT	Press [1] [4] in White Picture Output mode. *I/P are switched alternately.
Magenta Picture Output	Magenta picture is output with Component Output from AV Decoder. *Magenta picture (Saturation rate: 100%) *It is enable to switch Interlace/Progressive by "I/P switch: [1] [4]"	*Initial mode is "Interlace". MAGE I	Press [1] [2] in service mode.
		Switch Interlace/Progressive MAGE	Press [1] [4] in Magenta Picture Output mode. *I/P are switched alternately.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
RTSC Return in XP (A & V)	AV1 input signal is encoded (XP), decoded (XP) and output decoded signal to external without DISC recording and DISC playback.	Initial mode: EE2/ Interlace/ XP/ Audio 48kHz	Press [1] [3] in service mode.
		Switch Interlace/Progressive 	Press [1] [4] in RTSC Return XP mode. *I/P are switched alternately.
		Audio 44.1 kHz/ 48 kHz Switch	Press [2] [4] in RTSC Return XP mode. *48 kHz / 44.1 kHz are switched alternately.
I/P Switch	Switch Interlace and Progressive in EE mode. *Initial setting is “Interlace”. *This command is effective during executing “White Picture Output”, “Magenta Picture Output” and “RTSC Return in XP (A & V)” modes.	Initial mode is Interlace  Switch Interlace/Progressive 	Press [1] [4] in I/P Switch mode. *I/P are switched alternately.
Audio Mute (XTMUTE)	Check whether mute is applied normally by the timer microprocessor.		Press [2] [1] in service mode.
Audio Mute (XDMUTE)	Check whether mute is applied normally by the Digital P.C.B..		Press [2] [2] in service mode.
Audio Pattern Output	The audio pattern stored in the internal memory is output (Lch: 1kHz/-18dB) (Rch: 400Hz/-18dB) *Audio sound clock switching operation of DAC can be confirmed by sub command [2] [4].	Initial mode (Audio 48kHz) 	Press [2] [3] in service mode.
		Audio 44.1kHz/48kHz switching 	Press [2] [4] in Audio Pattern Output mode. *48 kHz / 44.1 kHz are switched alternately.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
HDD READ SEEK Inspection	Inspecting seek time of HSS to inspect performance.	At start AVSCAN ↓ * 00 ↓ The [*] sign is added every 20 seconds while inspecting. Two digits on the right side are the progress level of the inspection (The unit is %). Example on the way of inspection: *** 53 When HDD is OK after inspection: HDD OK (NG is displayed when error is excluding o) (Transfer rate is calculated from the AV scanning result, and when it is less than 35Mbps, NG is displayed.) HDD $## $: [X] is displayed when seek time is over 270msec., there is error or transfer rate is NG. Position at $ is space when excluding those. ##: Number of data of over 100msec. and less than 270msec. When it is over 100, [99] is displayed. When the number is less than 5, we judge it normal.	Press [3] [1] in service mode. * When canceling the inspection mode while executing, do “forced power-off”. Method: Press [POWER] key more than 10 seconds.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
HDD READ VERIFY Inspection	Measure of access time in READ VERIFY MODE of HDD.	At start  The [*] sign is added every 20 seconds while inspecting. Two digits on the right side are the progress level of the inspection (The unit is %). Example on the way of inspection:  When HDD is OK after inspection: (NG is displayed when error is excluding o) (Transfer rate is calculated from the AV scanning result, and when it is less than 35Mbps, NG is displayed.) $: [X] is displayed when seek time is over 270msec., there is error or transfer rate is NG. Position at $ is space when excluding those. ##: Number of data of over 100msec. and less than 270msec. When it is over 100, [99] is displayed. When the number is less than 5, we judge it normal.	Press [3] [2] in service mode. * When canceling the inspection mode while executing, do “forced power-off”. Method: Press [POWER] key more than 10 seconds.
HDD Spin-up time	The accumulation value of the Spin-up time of HDD is displayed.	 Spin-up time of HDD is displayed. (The unit of display is hour.)	Press [3] [3] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
HDD High Speed Scan		AVSCAN ↓ * 00 ↓ The [*] sign is added every 10 seconds while inspecting. Two digits on the right side are the progress level of the inspection (The unit is %). Example on the way of inspection: *** 53 When HDD is OK after inspection: HDD OK When HDD is NG after inspection: HDD *** [*] is the number of data of NG.	Press [3] [6] in service mode.
HDD Check	Simple quality judgment of HDD	HDDCHK ↓ When HDD is OK: HDD OK When HDD is NG: HDD NG	Press [3] [7] in service mode.
Laser Used Time Indiction	Check laser used time (hours) of drive.	* ●(*****) is the used time display in hour. ●Laser used time of DVD/ CD in Playback/Recording mode is counted.	Press [4] [1] in service mode.
Delete the Laser Used Time	Laser used time stored in the memory of the unit is deleted.	CLR	Press [9] [5] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
RAM Drive Last Error	RAM Drive error code display. *For details about the drive error code, refer to the Service Manual for the specific RAM Drive.	1. Error Number is displayed for 5 seconds. NO ** 2. Time when the error has occurred is displayed for 5 seconds. DDhhmm DD: Day hh: Hour mm: Minute 3. Last Drive Error (1/2) is displayed for 5 seconds. ****** 03: Bad disc 04: Bad disc or drive malfanction 4. Last Drive Error (2/2) is displayed for 5 seconds. ****** 5. Error occurring Disc type is displayed for 5 seconds. ****** 6. Disc Maker ID is displayed for 5 seconds. ****** 7. Factor of Drive Error occurring is left displayed ******	Press [4] [2] in service mode. When "INFO******" is being displayed, past 19 error histories can be displayed by pressing [0] [1] - [1] [9] In case that the maker cannot be identified, display is black out.
Delete the Last Drive Error	Delete the Last Drive Error information stored on the DVD RAM-Drive.	CLR	Press [9] [6] in service mode.
Laser power confirmation	Drive state is judged based on difference between laser power value at shipping and present laser power value.	CHK * * is judgment result | * | Power value difference | Evaluation | | 0 | 1mW or less | Very good. | | 1 | 2mW or less | Good. | | 2 | 3mW or less | Bad. | | 3 | 4mW or more | Very bad. | If DVD-RAM disc in not inserted, [NO DISC] is displayed. If power value study was filed, [ERROR] is displayed.	1. Insert DVD-RAM disc into RAM Drive in service mode. (Other media are assumed to be non-correspondence.) 2. Press [4] [4].
Turn on all FL/LEDs	All segments of FL and all LEDs are turned on.	All segments are turned on.	Press [5] [1] in service mode.
PB HIGH Signal Output	8 pin of AV 1 Jack (PB HIGH terminal) is High (approx. 11V DC).	PB HI	Press [5] [2] in service mode.
PB MIDDLE Signal Output	8 pin of AV 1 Jack (PB HIGH terminal) is Middle (approx. 5.5V DC)	PB MID	Press [5] [3] in service mode.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
Front connection inspection	Press all front keys and check the connection between Main P.C.B. and Front key Switches.	01 ** (1) (2) (1) Each time a key is pressed, segment turned on increases one by one. (2) Total umber of keys that have been pressed.	Press [5] [4] in service mode.
Production Date Display	Display the date when the unit was produced.	YYMMDD YY: Year MM: Month DD: Day	Press [6] [1] in service mode.
Display the accumulated working time	Display the accumulated unit´s working time.	****** (Indicating unit: Second)	Press [6] [4] in service mode.
Display the Error History	Display the Error History stored on the unit.	Display reason of error for 5 seconds. NO ** 01: Defect of Digital P.C.B. (AV DEC / MAIN CPU) 02: Defect of RAM Drive. 03: Defect of Disc. 04: Defect of Digital P.C.B. or Communication Error. 05: Defect of Digital P.C.B. (AV DEC / MAIN CPU) 06: Defect of HDD. Display the time when the error has occurred for 5 seconds. DDhhmm DD: Day hh: Hour mm: Minute Accumulated working time till occurring of the error is left displayed. ****** (Indicating unit: Second)	Press [6] [5] in service mode. Then press [0] [1] ~ [9] [9], the past 99 error histories are displayed.
Delete the Error History	Delete Error History information stored on the unit.	CLR	Press [9] [7] in service mode.
SD card WRITE check	Delete Error History information stored on the unit.	When the WRITE check is OK. SD OK When the WRITE check is NG. SD NG ***Note:** The image stored in the SD card will be erased.	Insert a SD card to SD card slot, and press [7] [4] in service mode. *Insert SD card while the power is off. *Check for [CARD SD] display on the FL display and go on the procedure.

Item		FL display	Key operation
Mode name	Description		(Remote controller key)
AV4(V)/AV1(RGB) I/O Setting	Set input to AV4 (V) and set output to AV1 (RGB) for I/O checking	PAL 01	Press [8] [0] in service mode.
AV2(Y/C)/AV1(V) I/O Setting	Set input to AV2 (Y/C) and set output to AV1 (V) for I/O checking	PAL 02	Press [8] [1] in service mode.
AV2(V)/AV1(Y/C) I/O Setting	Set input to AV2 (V) and set output to AV1 (Y/C) for I/O checking	PAL 03	Press [8] [2] in service mode.
AV2(RGB)/AV1(V) I/O Setting	Set input to AV2 (RGB) and set output to AV1 (V) for I/O checking	PAL 04	Press [8] [3] in service mode.
P50(H) Output	Timer Microprocessor IC7501-76 output High signal for AV1-pin 10 passing through inverter (approx. 0V DC at AV1-pin 10).	When OK. P50HOK When NG. P50HNG	Press [8] [4] in service mode.
P50(L) Output	Timer Microprocessor IC7501-76 output Low signal for AV1-pin 10 passing through inverter (approx. 4.4V DC at AV1-pin 10).	When OK. P50LOK When NG. P50LNG	Press [8] [5] in service mode.
Tray OPEN/CLOSE Test	The tray is opened and closed repeatedly.	****** "*" is number of open/close cycle times.	Press [9] [1] in service mode *When releasing this mode, press the [POWER] button of Remote Controller more than 10 seconds.
Error code initialization	Initialization of the last error code held by timer (Write in F00)	CLR	Press [9] [8] in service mode.
Initialize Service	Last Drive Error, Error history and Error Codes stored on the unit are initialized to factory setting.	CLR	Press [9] [9] in service mode.
Finishing service mode	Release Service Mode.	Display in STOP (E-E) mode. ******	Press power button on the front panel or Remote controller in service mode.

8 Service Fixture & Tools

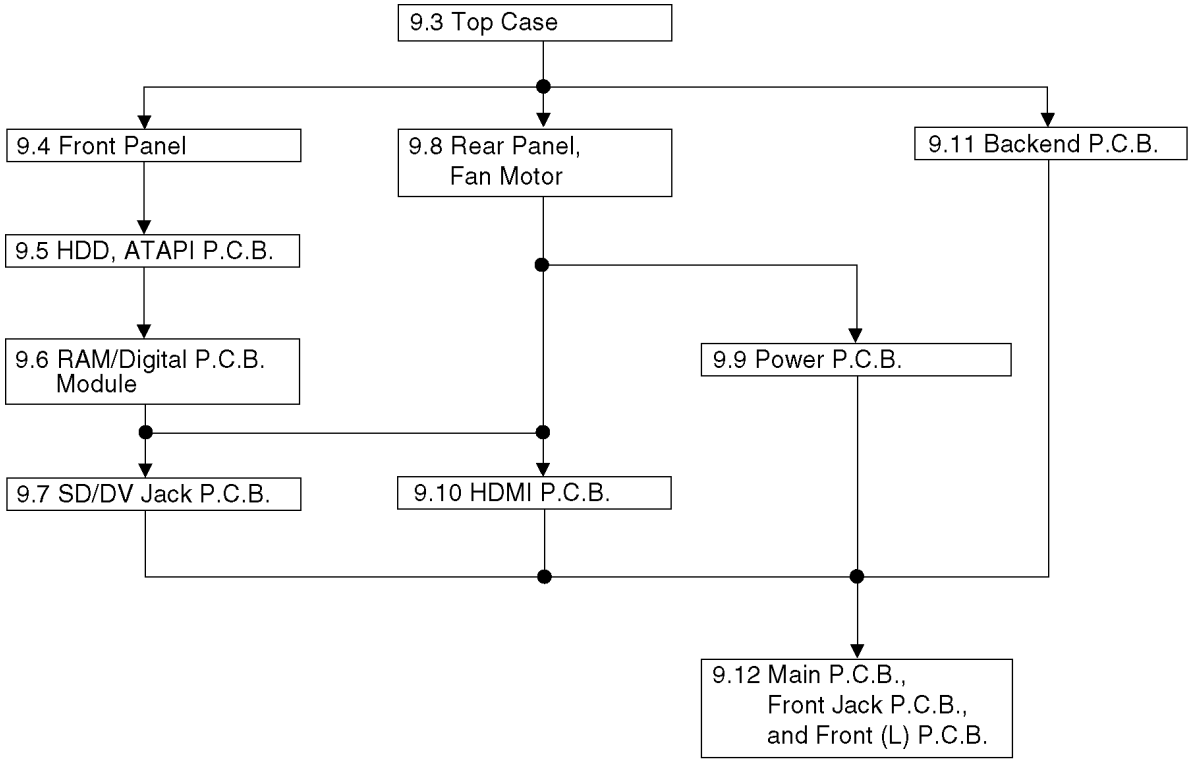
Part Number	Description	Compatibility
RFKZ0260	Extension Cable (MainP.C.B. - RAM/Digital P.C.B. Module/ 88 Pin)	Same as EH50 Series
RFKZ0327	Extension Cable (MainP.C.B. - Power P.C.B./ 15 Pin)	Same as E55 Series
RFKZ0366	Extension FFC (HDD - RAM/Digital P.C.B. Module/ 40 Pin)	Same as EH55 Series
RFKZ0168	Extension Cable (Main P.C.B. - Fan Motor/ 3 Pin)	Same as E50/ E55 Series
RFKZ0339	Extension Cable (MainP.C.B. - HDD / 4 Pin)	Same as EH55 Series
RFKZ0419	Extension Cable (MainP.C.B. - HDMI P.C.B. / 10 Pin)	New
JZS0484	Eject Pin	Same as E50 Series
RFKZ03D01K	Lead Free Solder (0.3mm/100g Reel)	Same as EH55 Series
RFKZ06D01K	Lead Free Solder (0.6mm/100g Reel)	Same as EH55 Series
RFKZ10D01K	Lead Free Solder (1.0mm/100g Reel))	Same as EH55 Series
RFKZ0316	Solder Remover (Lead free low temperature Solder/50g)	Same as EH55 Series
RFKZ0328	Flux	Same as EH55 Series
RFKZ0329	Bottle of Flux	Same as EH55 Series

9 Disassembly and Assembly Instructions

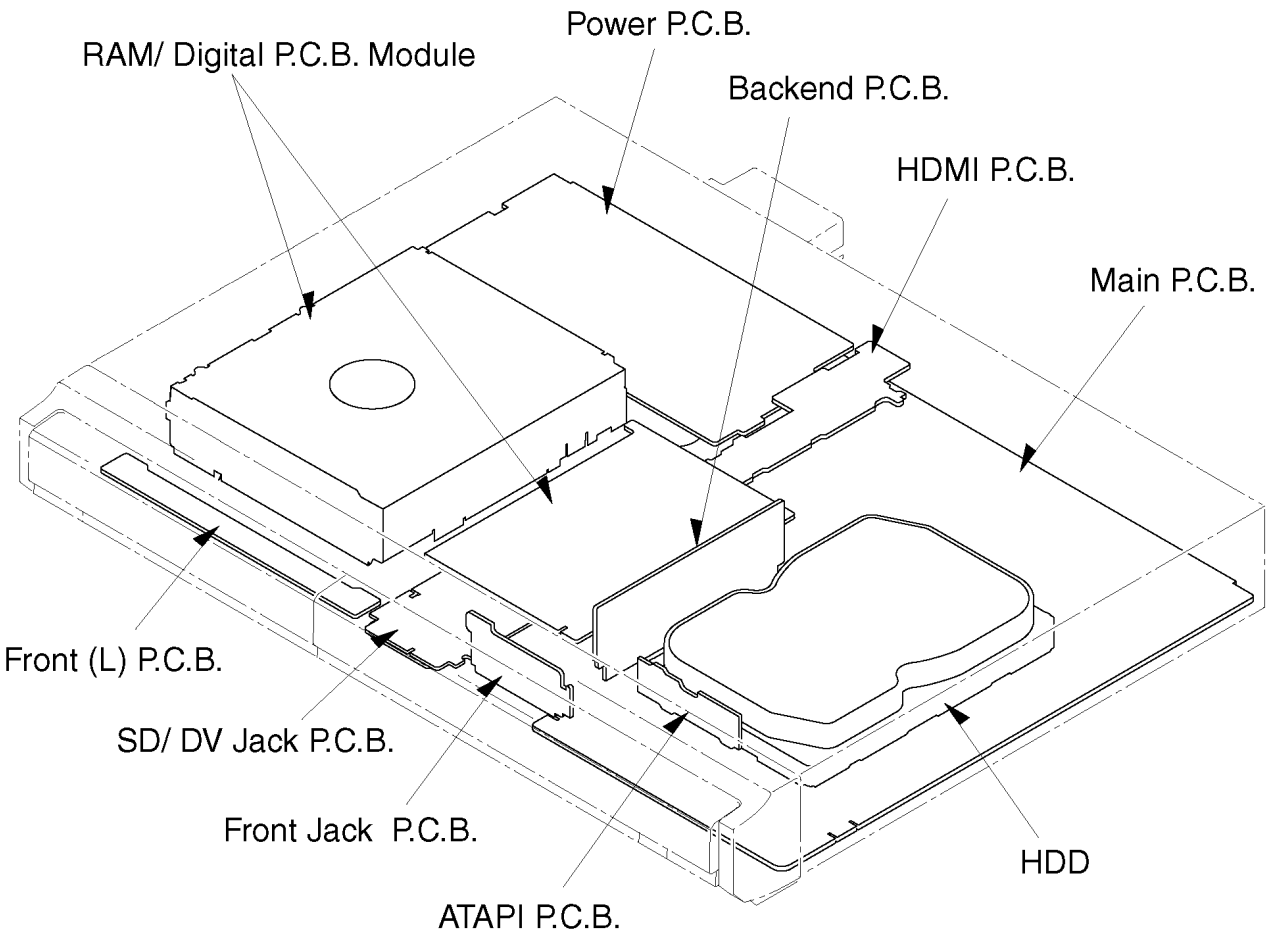
9.1. Disassembly Flow Chart

The following chart is the procedure for disassembling the casing and inside parts for internal inspection when carrying out the servicing.

To assemble the unit, reverse the steps shown in the chart below.

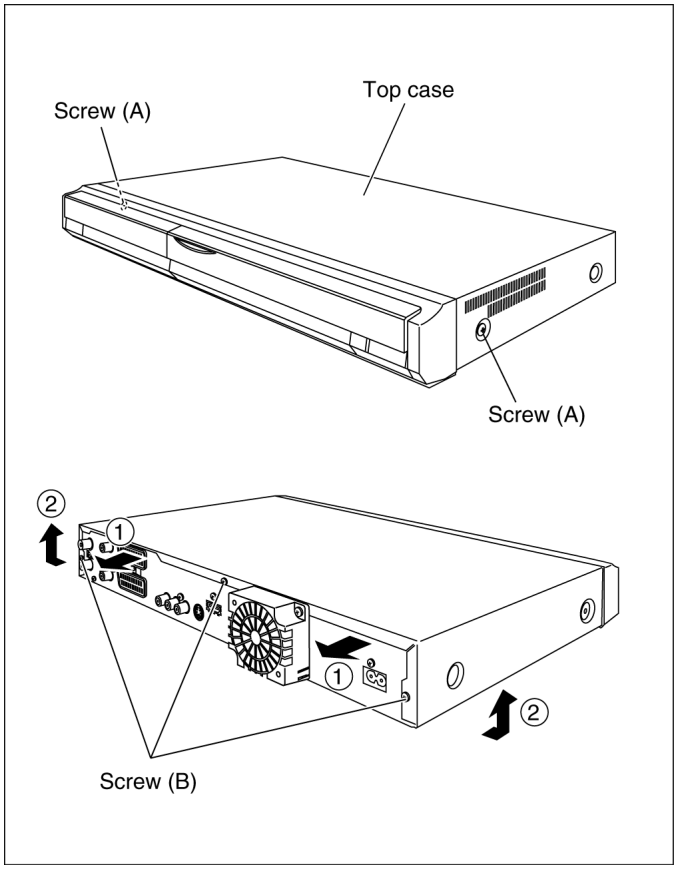

9.3 Top Case
9.4 Front Panel
9.8 Rear Panel, Fan Motor
9.11 Backend P.C.B.
9.5 HDD, ATAPI P.C.B.
9.6 RAM/Digital P.C.B. Module
9.9 Power P.C.B.
9.7 SD/DV Jack P.C.B.
9.10 HDMI P.C.B.
9.12 Main P.C.B., Front Jack P.C.B., and Front (L) P.C.B.

9.2. P.C.B. Positions



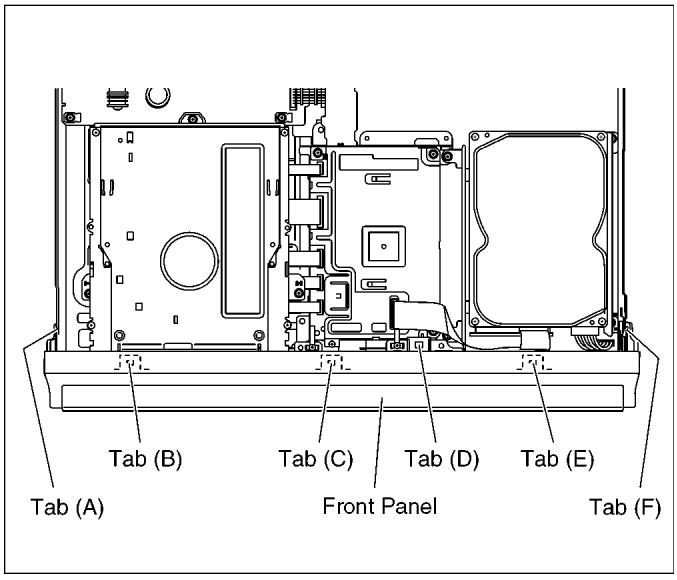
9.3. Top cover

1. Remove the 2 screws (A) and 3 screws (B).
2. Slide Top Case rearward and open the both ends at rear side of the Top Case a little and lift the Top Case in the direction of the arrows.



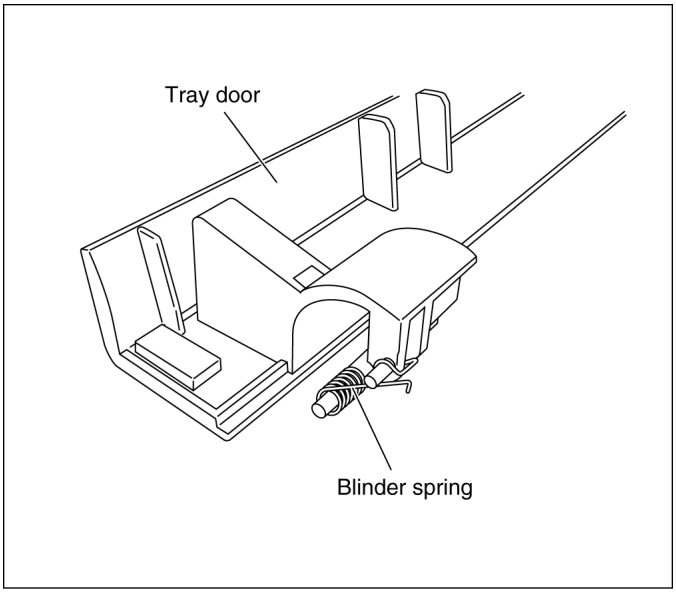
9.4. Front Panel

1. Unlock 6 tabs in (A) - (F) turn.
   Pull with the front panel in the direction of your side.

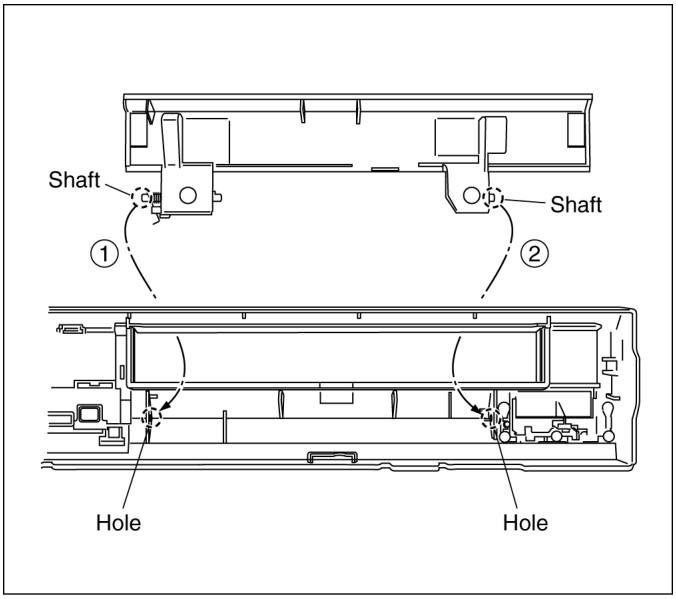


9.4.1. How to assemble Tray door ass'y

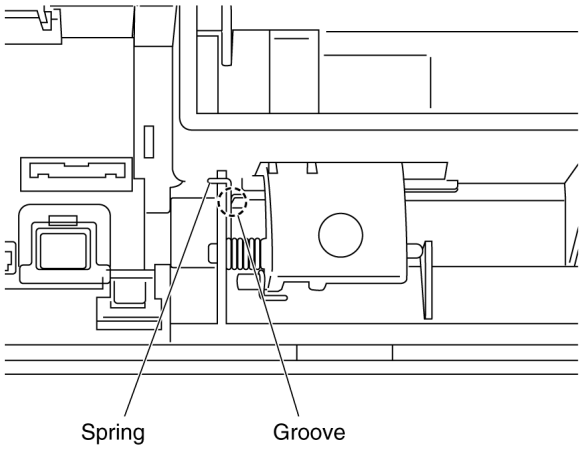
1. Attach Blinder spring to Tray door ass'y.



2. Attach Tray door ass'y in order from ① to ③.
   ① Put the Brinder spring on the groove.
   ② Insert the shaft in the hole.
   ③ Insert the shaft in the hole.



3. Confirm the Brinder spring is attached as following.



9.5. HDD, ATAPI P.C.B.

Caution:
Writing the main firmware to the unit is necessary after replacing the HDD.
Prepare the latest firmware updating disc.

* The main firmware is recorded in the HDD, but the replacement HDD has no data (and needs to be formatted).

Writing Procedure of Main Firm:

Caution:
(1) Writing of Main Firm needs 3, 4 minutes.
(2) Never cut the power of DVD Recorder until writing in Firmware ends.
(3) Initial settings and contents of reservation will not change if writing is normally completed.

1. Prepare latest firmware updating disc.
2. Replace HDD.
3. Turn on power of DVD Recorder.
4. After [PLEASE WAIT] is displayed on FL., [HDD ERR] is displayed on FL.
5. Tray opens automatically.
6. Insert updating disc for Firmware and press OPEN/CLOSE key.
   (If a wrong disc was inserted, [NG DISK] [NO FVU] is displayed on FL.)
7. [LOAD] → [LD FVU] ⇔ [M_FIRM] are displayed on FL alternately.
8. [MAIN] ⇔ [UPD OK] blink alternately and Tray opens.
   Take out disc (Writing was finished).
9. Press Power button to turn off power.
10. Press Power button to turn on power.
11. [HELLO] → [SELF CHECK] are displayed on FL.
12. [UNFORMAT] is displayed on FL.
13. After [UNFORMAT] was displayed, message to request FORMAT is displayed on TV screen.
14. Select [Yes] and press [ENTER] key to format HDD.
    (After FORMAT, program in HDD will be lost, but Main firm will not be lost.)

"Write of the main firm" is completed above.

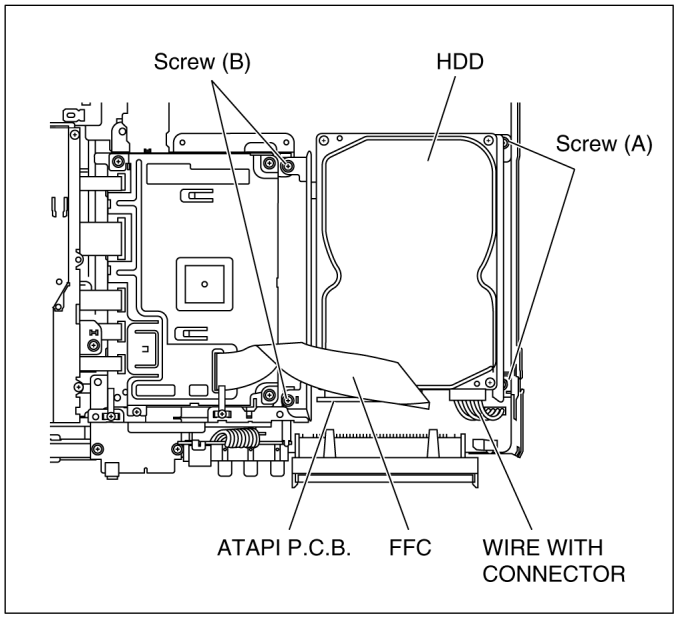
* Drive firm is not updated by above operation. If you wish update Drive firm, please prepare the disc for latest firmware update, and write it again.
* If the version of the firm you have prepared was same as or later than that has already been written in deck, 'UNSUPPORT' is displayed on FL.
* In a usual updating of firmware, writing is not performed when the timer reservation standby was not released.

Handling of HDD
The following precautions should be taken when handling HDD.

1. Never give an impact to HDD. (Even a drop from 1cm height can be a cause of HDD failure.
2. When placing HDD on a workbench, provide a mat on a bench for shock absorption and anti-static purposes.
3. When installing HDD, release it from your hands only after confirming that it is fully set on the chassis.
4. Avoid stacking up HDD.
5. HDD is unstable and easy to fall. Do not stand it on its side face.
6. When handling HDD, hold its side faces to avoid static hazard.
7. Do not place HDD on its wrapping bag after removal. (Prevention of static hazard
8. Use a screwdriver with low impact and anti-static features.

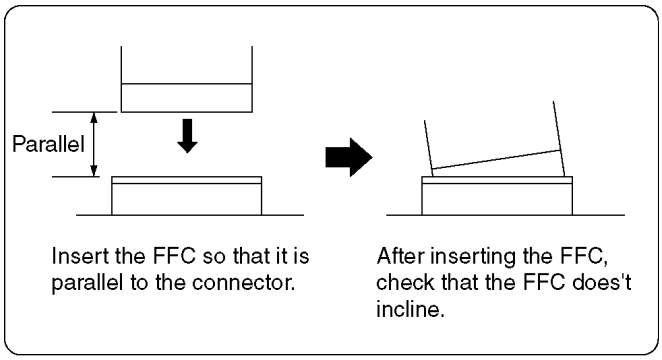
Note:
When replacing HDD, please make the rear jumper slave or cable select configuration.

1. Remove the 2 Screws (A) and (B), FFC and Wire with connector to remove HDD with ATAPI P.C.B..

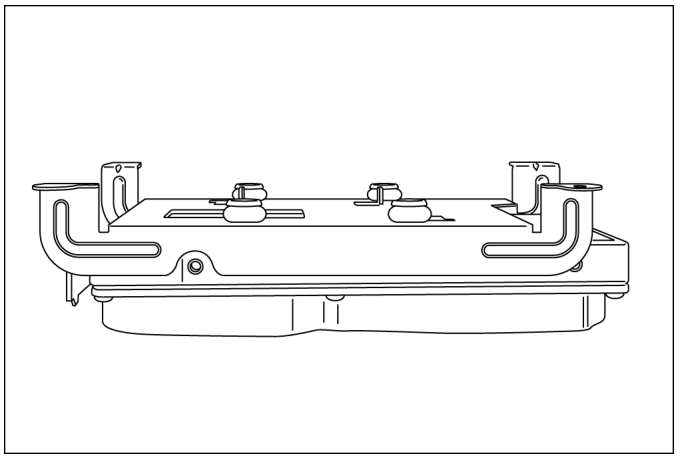


CAUTION:

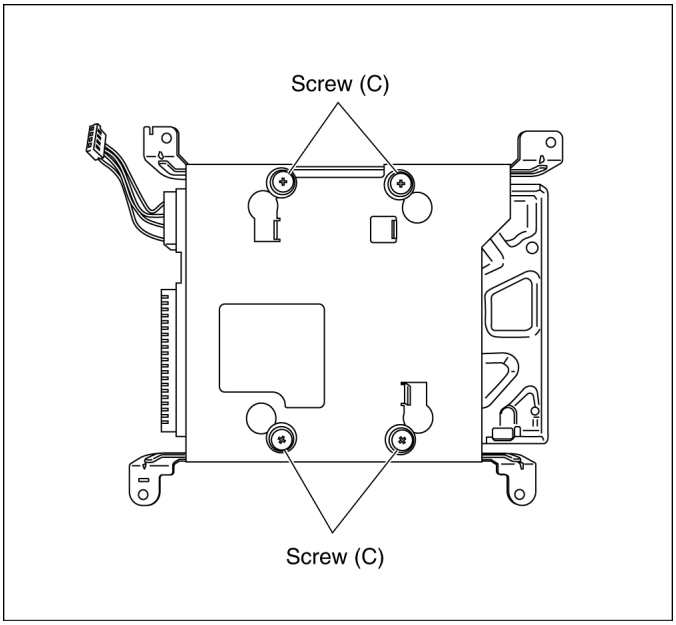
When replacing HDD, pay attention as below.



2. Put HDD with HDD angle up and down inversely so as not to give a shock to HDD.



3. Remove 4 Screws (C) to remove HDD from HDD angle.

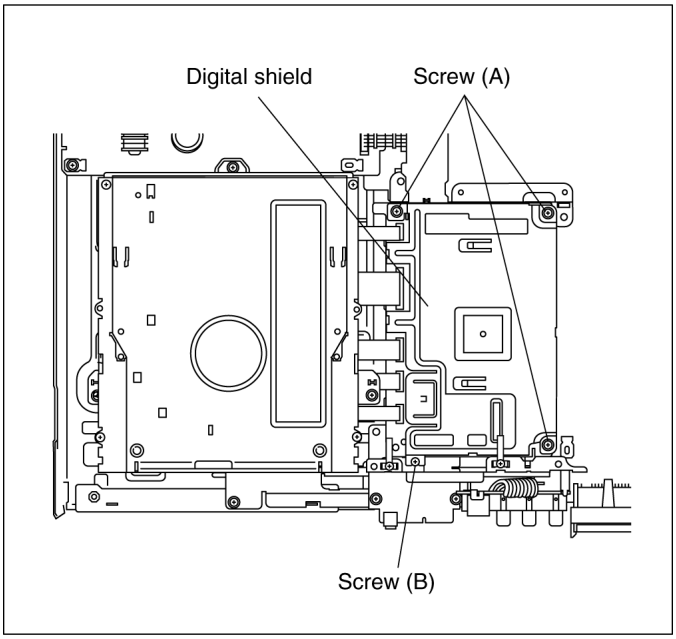


9.6. RAM/Digital P.C.B. Module

Caution:
Pairing of RAM Drive and Digital P.C.B. as "RAM/ Digital P.C.B. Module" have to be replaced together. If the pairing is changed, RAM Drive unit has to be re-aligned. Because the alignment data for RAM Drive Unit is stored in Digital P.C.B..

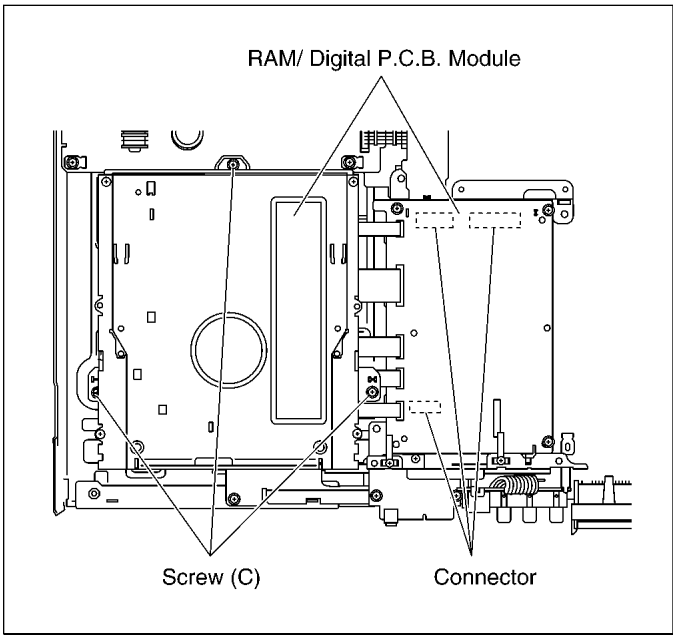
Formatting the HDD is unnecessary after replacing Digital P.C.B. or RAM/Digital P.C.B. Module
[TM AV1] is displayed, once power OFF, and power ON again.

1. Remove the 3 Screws (A) and Screw (B) to remove Digital Shield.

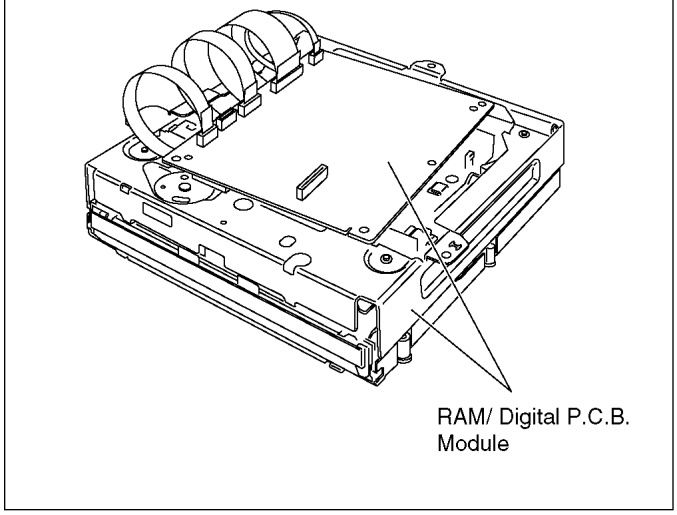


2. Lift up Digital P.C.B. slightly so to disconnect connectors to remove Digital P.C.B..

   And remove 3 Screws (C) to remove DVD drive.



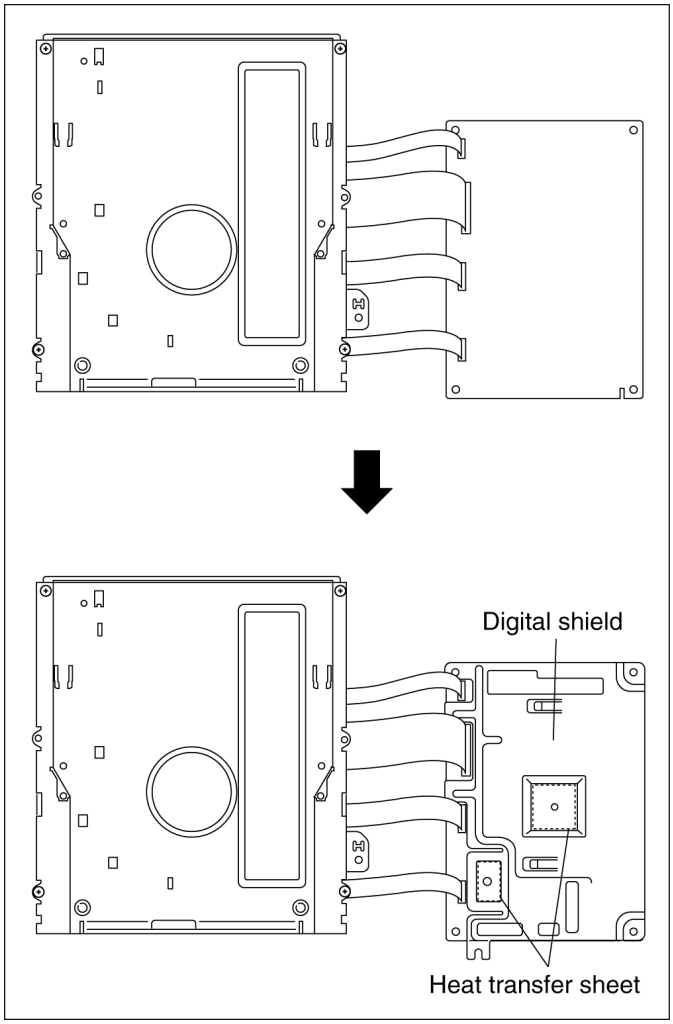
3. Put Digital P.C.B. on DVD drive and remove RAM/Digital P.C.B. Module.



Note:

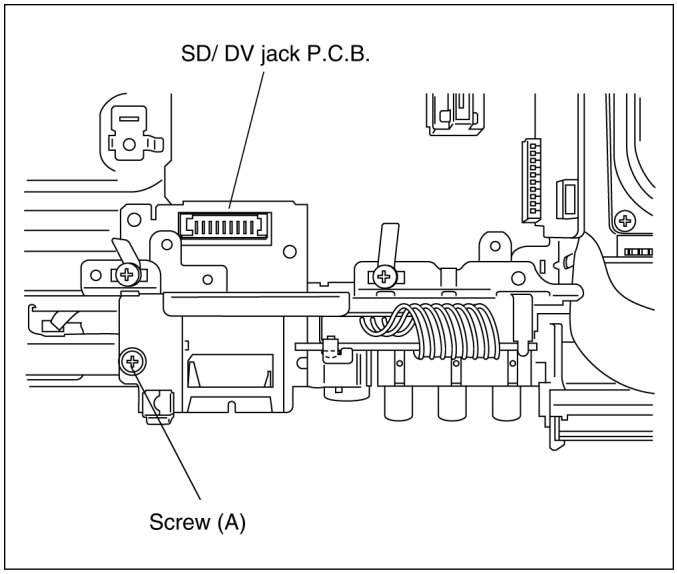
RAM/Digital P.C.B. Module as service part has no heat sink and heat transfer sheet.

Before returning to customer, heat sink and heat transfer sheet should be installed on Digital P.C.B..



9.7. SD/DV Jack P.C.B.

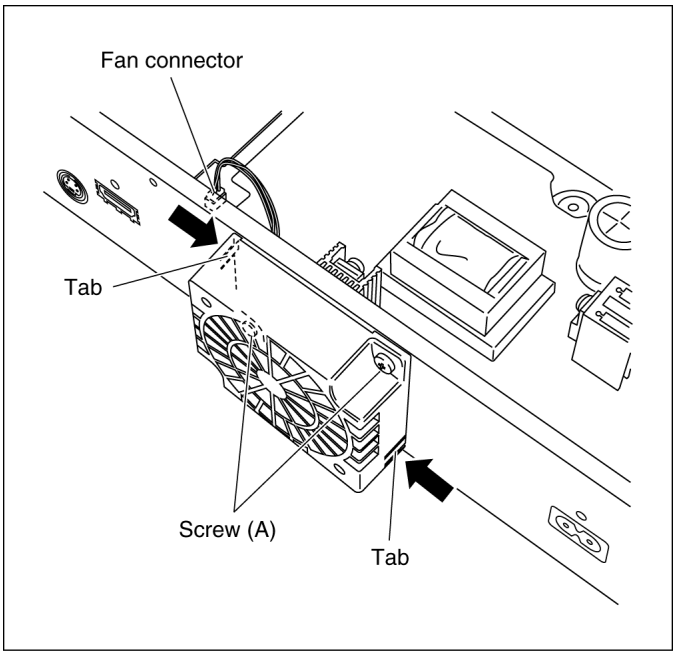
1. Remove Screw (A) to remove DV jack P.C.B..



9.8. Rear Panel

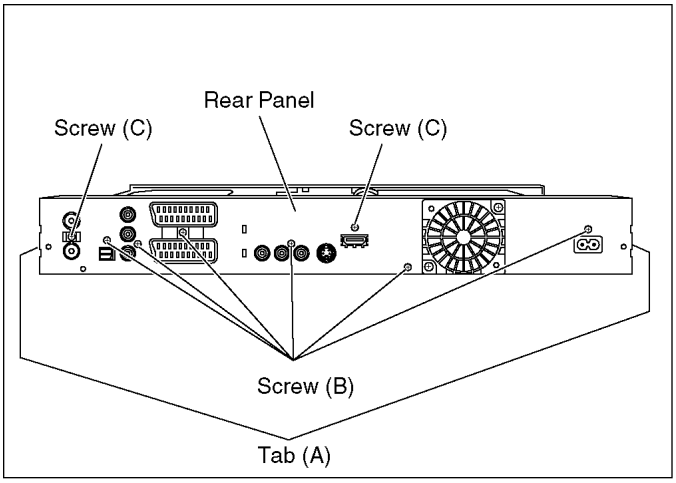
9.8.1. Only Fan Motor

1. Remove the 2 Screws (C) and fan connector, remove the Fan motor with pushing 2 tabs in the direction of arrows.



9.8.2. Rear Panel with Fan Motor

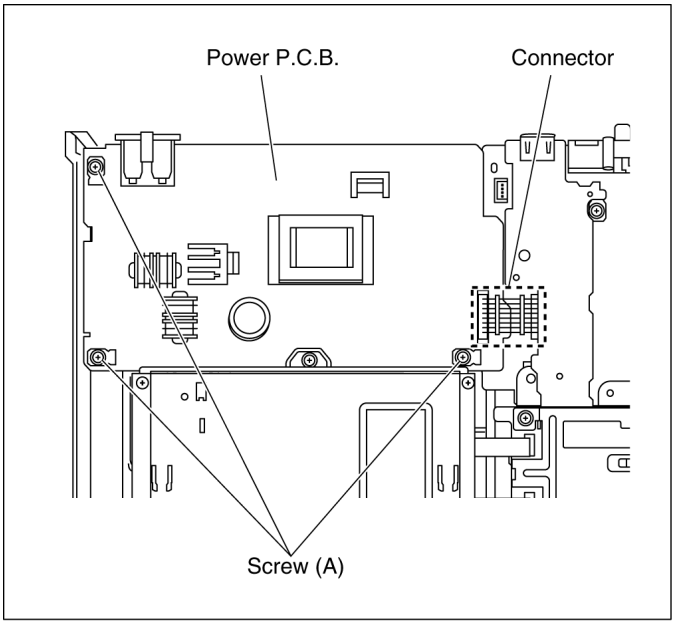
1. Remove 6 Screws (B) and 2 Screws (C).

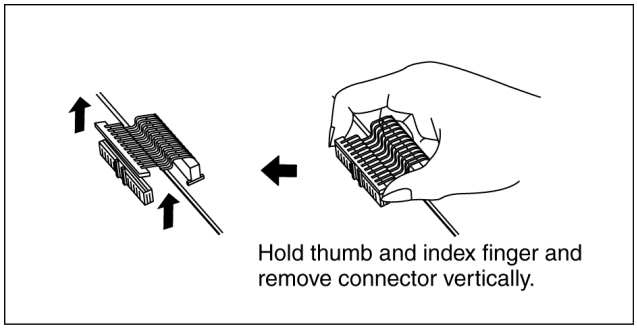


2. Disconnect the Fan Connector and unlock 2 Tabs (A) to remove Rear Panel.

9.9. Power P.C.B.

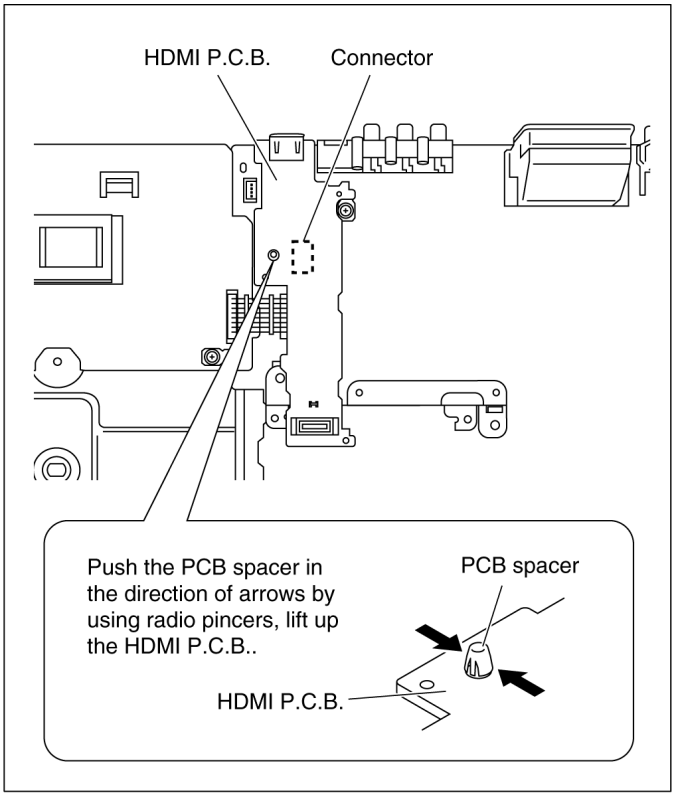
1. Remove 3 Screws (A) and disconnect the connector to remove Power P.C.B..





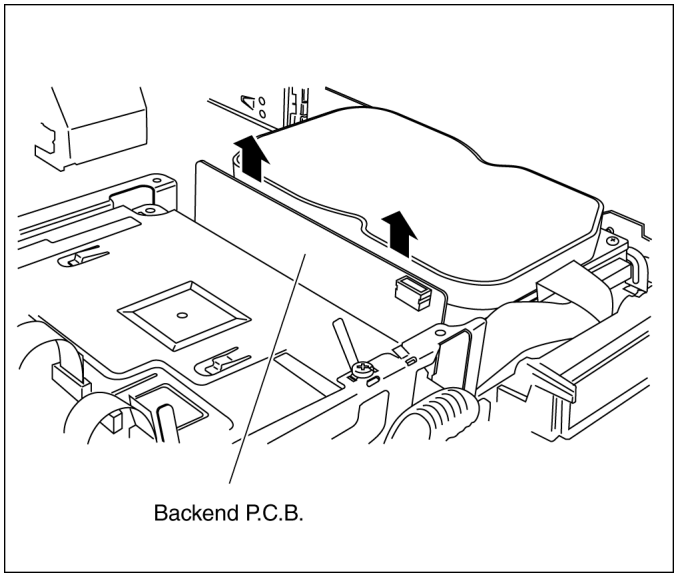
9.10. HDMI P.C.B.

1. Push the PCB spacer in the direction of arrows and lift up HDMI P.C.B. slightly so to disconnect connector to remove HDMI P.C.B..



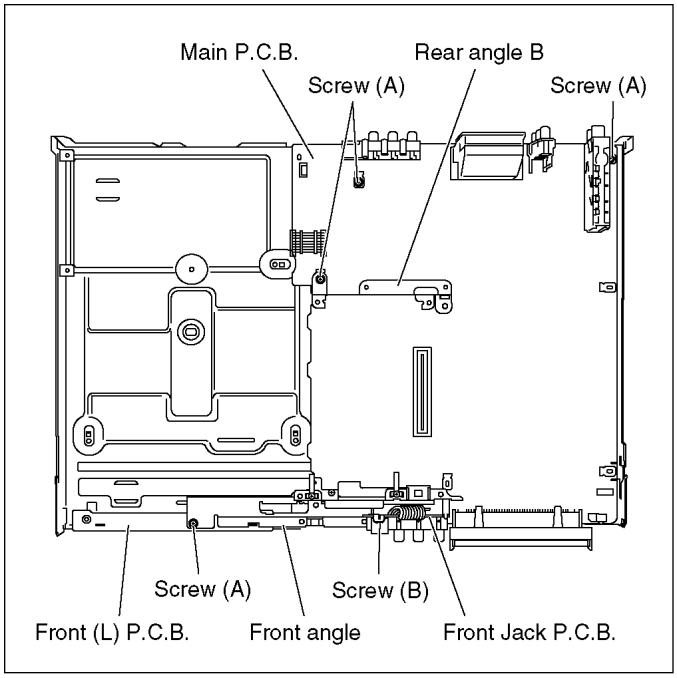
9.11. Backend P.C.B.

1. Hold the both side of Backend P.C.B., lift up the direction of arrows to remove.



9.12. Main P.C.B., Front Jack P.C.B. and Front (L) P.C.B.

1. Remove 4 Screws (A) and Screw (B).
2. Remove Front angle and Rear angle B.
3. Remove Main P.C.B., Front jack P.C.B. and Front (L) P.C.B.



10 Measurements and Adjustments

10.1. Service Positions

Note:

For description of the disassembling procedure, see the section 9.

10.1.1. Checking and Repairing of Power P.C.B.

1. Top Case

Remove 2 Screws (A) on side

Remove 3 rear Screws (B) on rear

Remove Top Case

2. Power P.C.B.

Remove 1 Screw (A) for AC Inlet fixing

Remove 3 Screws (B) for Power P.C.B. fixing

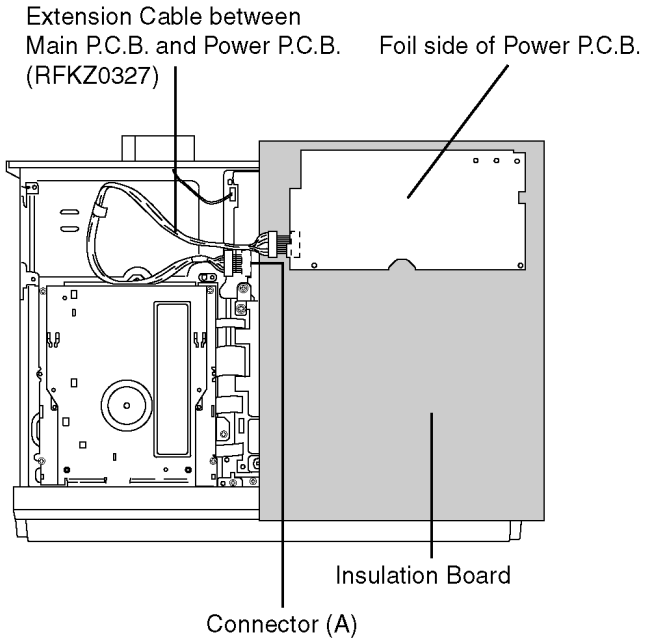
Remove Connector (A) to Main P.C.B.

Connect Extension Cable between Main P.C.B. and Power P.C.B. (RFKZ0327).

Put Power P.C.B. on Insulation Board so that it's foil side faces top.

Caution:

Red wire in the extension cable should be connected to (1) pin.



10.1.2. Checking and Repairing of RAM / Digital P.C.B. Module

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear
- Remove Top Case

2. Front Panel

- Unlock 1 Locking Tab on upper
- Unlock 2 Locking Tabs on side
- Unlock 3 Locking Tabs on bottom
- Remove Front Panel

3. RAM/Digital P.C.B. Module

- Remove 1 FFC from HDD
- Remove 6 Screws (A) and 1 Screw (B) fixing RAM/Digital P.C.B. Module
- Lift up Digital P.C.B. to remove it

4. DV Jack/SD Card P.C.B.

- Remove 2 Screws (A) fixing DV Jack/ SD Card P.C.B.
- Remove DV Jack/SD Card P.C.B.

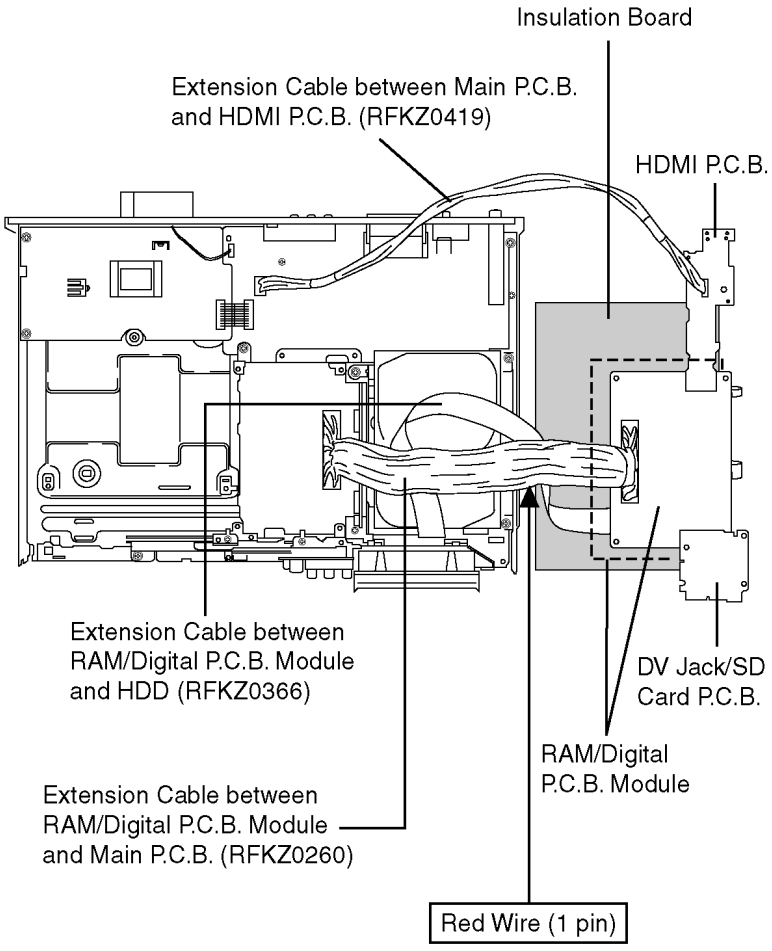
5. HDMI P.C.B.

- Remove 1 Screw (A) fixing HDMI P.C.B.
- Unlock a PCB spacer
- Remove HDMI P.C.B.

Attach DV Jack/SD Card P.C.B. and HDMI P.C.B. on to Digital P.C.B..
Put RAM/Digital P.C.B. Module on side.

Connect Extension Cable between HDD and RAM/Digital P.C.B. Module (RFKZ0366), and between Main P.C.B. and RAM/Digital P.C.B. Module (RFKZ0260), and between Main P.C.B. and HDMI P.C.B. (RFKZ0419).

Caution:
Red wire in the extension cable should be connected to (1) pin.


Insulation Board
Extension Cable between Main P.C.B. and HDMI P.C.B. (RFKZ0419)
HDMI P.C.B.
Extension Cable between RAM/Digital P.C.B. Module and HDD (RFKZ0366)
DV Jack/SD Card P.C.B.
RAM/Digital P.C.B. Module
Extension Cable between RAM/Digital P.C.B. Module and Main P.C.B. (RFKZ0260)
Red Wire (1 pin)

10.1.3. Checking and Repairing of Main P.C.B.

1. Top Case

- Remove 2 Screws (A) on side
- Remove 3 rear Screws (B) on rear
- Remove Top Case

2. Front Panel

- Unlock 1 Locking Tab on upper
- Unlock 2 Locking Tabs on side
- Unlock 3 Locking Tabs on bottom
- Remove Front Panel

3. HDD

- Remove 1 FFC from Digital P.C.B.
- Remove 4Pin Power Cable from Main P.C.B.
- Remove 2 Screws (A) and 2 Screws (B) fixing HDD Angle with HDD

4. RAM/Digital P.C.B. Module

- Remove 1 FFC from HDD
- Remove 6 Screws (A) and 1 Screw (B) fixing RAM/Digital P.C.B. Module
- Lift up Digital P.C.B. to remove it

5. DV Jack/SD Card P.C.B.

- Remove 2 Screws (A) fixing DV Jack/SD Card P.C.B.
- Remove DV Jack/SD Card P.C.B.

6. HDMI P.C.B.

- Remove 1 Screw (A) fixing HDMI P.C.B.
- Unlock a PCB spaser
- Remove HDMI P.C.B.

7. Rear Panel

- Disconnect Fan Motor Connector
- Remove 7 Screws (one is for Tuner)
- Unlock 2 Locking Tabs on side
- Remove Rear Panel

8. Power P.C.B.

- Remove 3 Screw (A) fixing Power P.C.B.
- Remove Connector (A) to Main P.C.B.

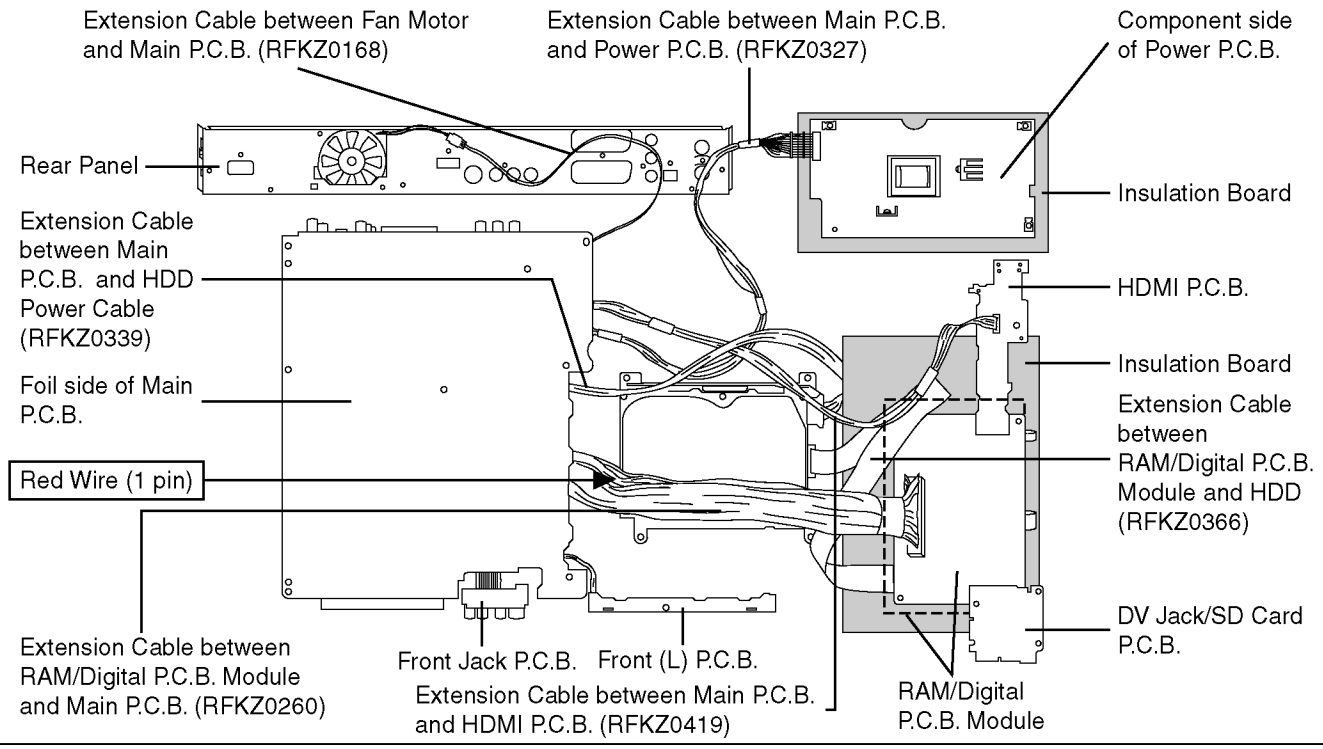
9. Front (L) P.C.B.,Front Jack and Main P.C.B.

- Remove 5 Screws (A) and 1 Screw (B)
- Remove Front Angle and Rear Angle B
- Remove Front (L) P.C.B.,Front Jack P.C.B. and Main P.C.B.

Attach DV Jack/SD Card P.C.B. and HDMI P.C.B. to Digital P.C.B..
Remove Power P.C.B. from Chassis,and put Power P.C.B. so that its component side faces top.
Remove Front (L), Front Jack P.C.B. and Main P.C.B. from Chassis,and put Front (L) and Main P.C.B. so that its foil side faces top.
Put Insulation Board on DVD Drive, then place Digital P.C.B. on Insulation Board.

Connect Extension Cable between Main P.C.B. and RAM/Digital P.C.B. Module (RFKZ0260), and between Main P.C.B. and Power P.C.B. (RFKZ0327), and between HDD Power Cable and Main P.C.B. (RFKZ0339), and between HDD and RAM/Digital P.C.B. Module (RFKZ0366), and between Fan Motor and Main P.C.B. (RFKZ0168), and between Main P.C.B. and HDMI P.C.B. (RFKZ0419).

Caution: Red wire in the extension cable should be connected to (1) pin.


Extension Cable between Fan Motor and Main P.C.B. (RFKZ0168)
Extension Cable between Main P.C.B. and Power P.C.B. (RFKZ0327)
Component side of Power P.C.B.
Rear Panel
Insulation Board
Extension Cable between Main P.C.B. and HDD Power Cable (RFKZ0339)
HDMI P.C.B.
Foil side of Main P.C.B.
Insulation Board
Extension Cable between RAM/Digital P.C.B. Module and HDD (RFKZ0366)
Red Wire (1 pin)
DV Jack/SD Card P.C.B.
Extension Cable between RAM/Digital P.C.B. Module and Main P.C.B. (RFKZ0260)
Front Jack P.C.B.
Front (L) P.C.B.
Extension Cable between Main P.C.B. and HDMI P.C.B. (RFKZ0419)
RAM/Digital P.C.B. Module

10.1.4. Checking and Repairing of HDD

1. Top Case

Remove 2 Screws (A) on side

Remove 3 rear Screws (B) on rear

Remove Top Case

2. HDD

Remove 1 FFC from Digital P.C.B.

Remove 4 Pin Power Cable from Main P.C.B.

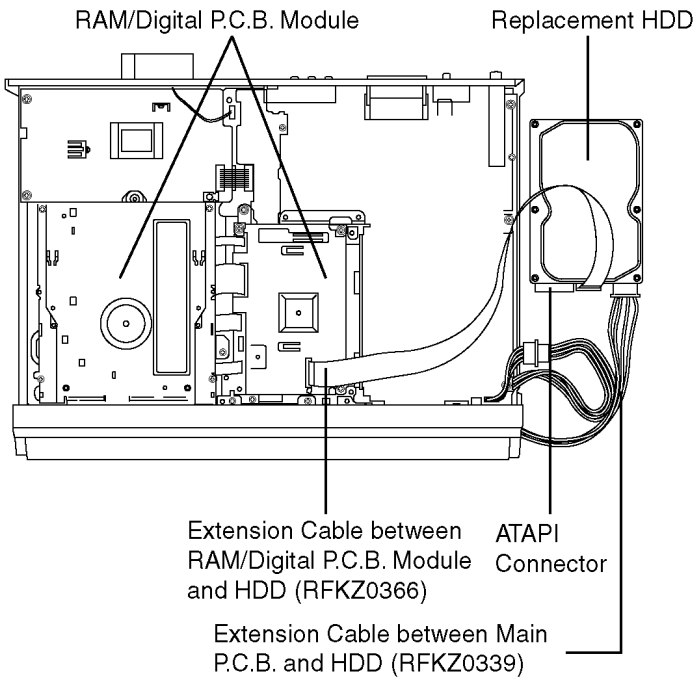
Remove 2 Screws (A) and 2 Screws (B) fixing HDD Angle with HDD

Connect HDD ATAPI Connector to Replacement HDD

Connect 4 Pin Power Cable to Replacement HDD

Put Replacement HDD on Insulation Board.

Connect Extension Cable between Replacement HDD and RAM/Digital P.C.B. Module (RFKZ0366),and between Replacement HDD and Main P.C.B. (RFKZ0339).


RAM/Digital P.C.B. Module
Replacement HDD
Extension Cable between RAM/Digital P.C.B. Module and HDD (RFKZ0366)
ATAPI Connector
Extension Cable between Main P.C.B. and HDD (RFKZ0339)

10.2. Caution for Replacing Parts

10.2.1. Items that should be done after replacing parts

√ :Necessary — :Unnecessary

Items that Should be done / Replacing Parts	Reset IC7501 (*Note1)	Obtain and register a new registration code.(*Note2) (Except EB)	Main Firm update(*Note3)	HDD Format
Main P.C.B.	√	√	—	√
IC7501 (Timer IC)	√	—	—	—
IC7404 (EEPROM)	—	√	—	√
HDD	—	—	√	√

***Note1:**

Resetting Method

Reset object	Condition of power	Short Terminal
IC7501 (Timer IC)	POWER ON	IC7502-4 (RESET_L) and GND

***Note2:**

Please will always pass the customer "Warning for Customers Who Use the DivX Video-on-Demand content." with the product and get it when you unavoidably exchange EEPROM or P.C.B. including EEPROM (When the product is exchanged, it is the same.).

You must use print attached to service part (EEPROM or P.C.B. including EEPROM) or must use copy of print below as "Warning for Customers who use the DivX Video-on-Demand content."

Information needed without fail for the customer for whom it is used continuing DivX Video-on-Demand Service to "Manual for the customer" is recorded.

Appendix:

* Parts that memorize user's information are only EEPROM.
* The registration of Registration Code is possible for half a year up to 6 recorders up to 10 recorders a year. Replacement of EEPROM or P.C.B. including EEPROM spends one of this.

Registration Code is memorized in EEPROM (RFKFxxxxxx).
Model without VHS: Main P.C.B.
Model with VHS: Digital I/F P.C.B. (Power & DVD I/F/P.C.B.)
If exchange above P.C.B. or EEPROM, new registration Code differ from previous Registration Code will be generated. In this case if your customer uses DivX Video-on-Demand service, he/she will no longer be able to play any content that he/she purchased under that same registration code.
Therefore your customer will need to obtain and register the new registration code.

*Copy this page and cut on the dotted line and give the lower half to your customer.

Warning for Customers who use the DivX Video-on-Demand content.

1. The registration code has been changed for the repair of the product or the product exchange.
2. Obtain and register a new registration code, otherwise you will no longer be able to play DivX Video-on-Demand content.
3. Follow the procedure on the DivX Video-on-Demand web site to register at
   http://vod.divx.com/
   * If you do not use the DivX Video-on-Demand content, please ignore this warning.

Note3:

Please prepare latest firmware updating disc.

* Main Firm is being recorded in HDD, but new HDD has no data.

Writing Procedure of Main Firm:

<<Caution>>

(1) Writing of Main Firm needs 3, 4 minutes.

(2) Never cut the power of DVD Recorder until writing in Firmware ends.

(3) Initial settings and contents of reservation will not change if writing is normally completed.

1. Prepare updating disc for firm ware.
2. Replace HDD.
3. Turn on power of DVD Recorder.
4. After [PLEASE WAIT] is displayed on FL., [HDD ERR] is displayed on FL.
5. Tray opens automatically.
6. Insert updating disc for Firmware and press OPEN/CLOSE key. (If a wrong disc was inserted, [NG DISK] [NO FVU] is displayed on FL.)
7. [LOAD] → [LD FVU] ←→ [M_FIRM] are displayed on FL alternately.
8. [MAIN] ←→ [UPD OK] blink alternately and Tray opens. Take out disc (Writing was finished).
9. Press Power button to turn off power.
10. Press Power button to turn on power.
11. [HELLO] → [SELF CHECK] are displayed on FL.
12. [UNFORMAT] is displayed on FL.
13. After [UNFORMAT] was displayed, message to request FORMAT is displayed on TV screen.
14. Select [Yes] and press [ENTER] key to format HDD.

(After FORMAT, program in HDD will be lost, but Main firm will not be lost.

“Write of the main farm" is completed above.

* Drive firm is not updated by above operation. If you wish update Drive firm, please prepare the disc for latest firmware update, and write it again.

* If the version of the firm you have prepared was same as or later than that has already been written in deck, ´UNSUPPORT´ is displayed on FL.

* In a usual updating of firmware, writing is not performed when the timer reservation standby was not released.

10.2.2. Notice after replacing RAM/Digital P.C.B. Module

Formatting the HDD is unnecessary after replacing Digital P.C.B. or RAM/Digital P.C.B. Module.

[TM AV1] is displayed, once power OFF, and power ON again.

10.3. Standard Inspection Specifications after Making Repairs

After making repairs, we recommend performing the following inspection, to check normal operation.

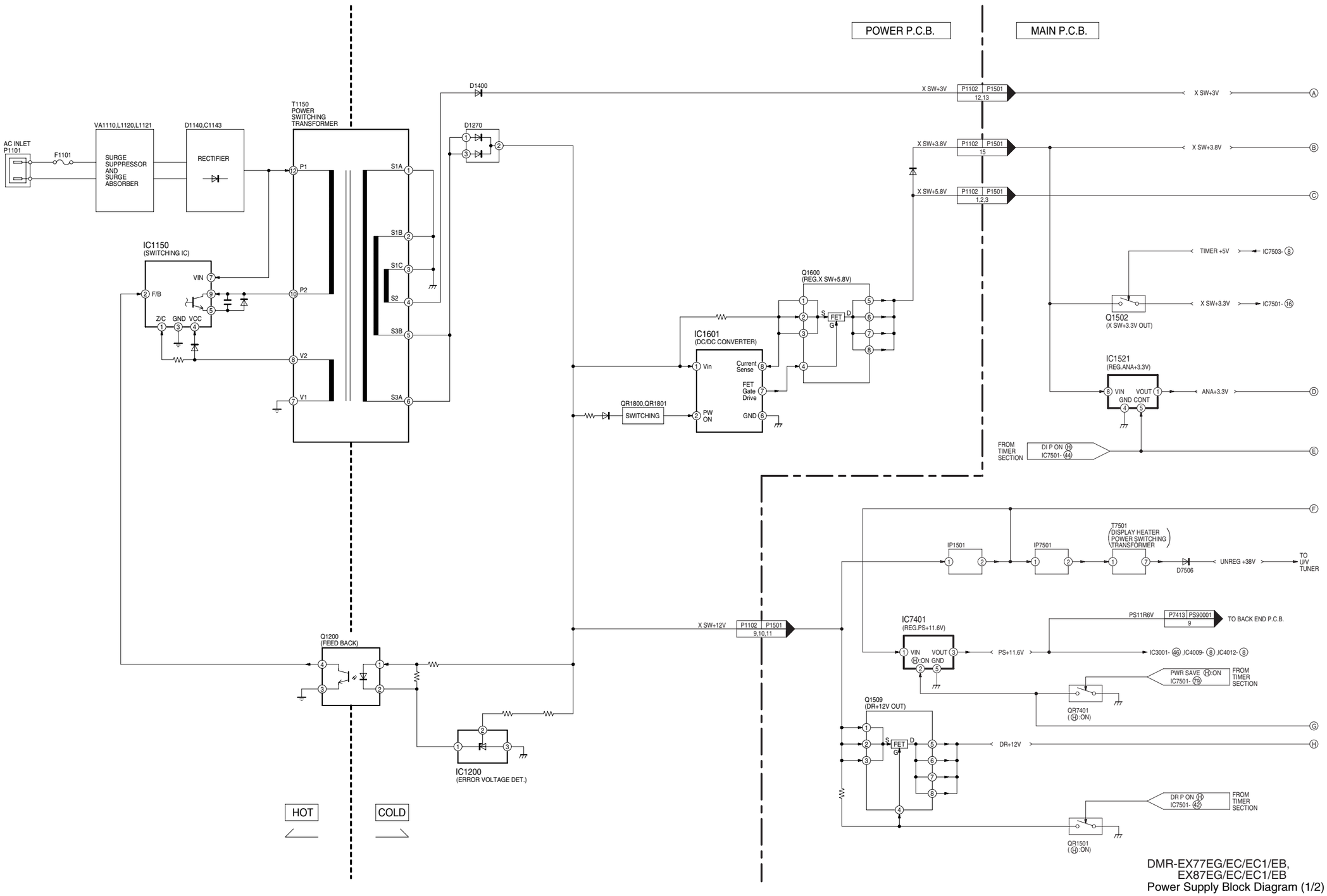
No.	Procedure	Item to Check
1	Turn on the power, and confirm items pointed out.	Items pointed out should reappear.
2	Insert RAM disc.	The Panasonic RAM disc should be recognized.
3	Enter the EE (TU IN / AV IN - AV OUT) mode.	No abnormality should be seen in the picture, sound or operation.
4	Perform auto recording and playback for one minute using the RAM disc.	No abnormality should be seen in the picture, sound or operation. *Panasonic DVD-RAM disc should be used when recording and playback.
5	Model with the HDD: Perform auto recording and playback for one minute using the HDD.	No abnormality should be seen in the picture, sound or operation.
6	If a problem is caused by a VCD, DVD-R, DVD-Video, Audio-CD, or MP3, playback the test disc.	No abnormality should be seen in the picture, sound or operation.
7	Models with SD Card Slot or DV Input Jack: In case of that the trouble is caused by SD card and/or DV terminal.	Models with SD Card or DV Input Jack; 1) SD Card: Check to be able to display and copy the picture. 2) DV terminal: Check to be able to record from DVC.
8	After checking and making repairs, upgrade the firmware to the latest version.	Make sure that [FIRM_SUCCESS] appears in the FL displays. *[UNSUPPORT] display means the unit is already updated to newest same version. Then version up is not necessary.
9	Transfer [9][9] in the service mode setting, and initialize the service settings (return various settings and error information to their default values. The laser time is not included in this initialization).	Make sure that [CLR] appears in the FL display. After checking it, turn the power off.

Use the following checklist to establish the judgement criteria for the picture and sound.

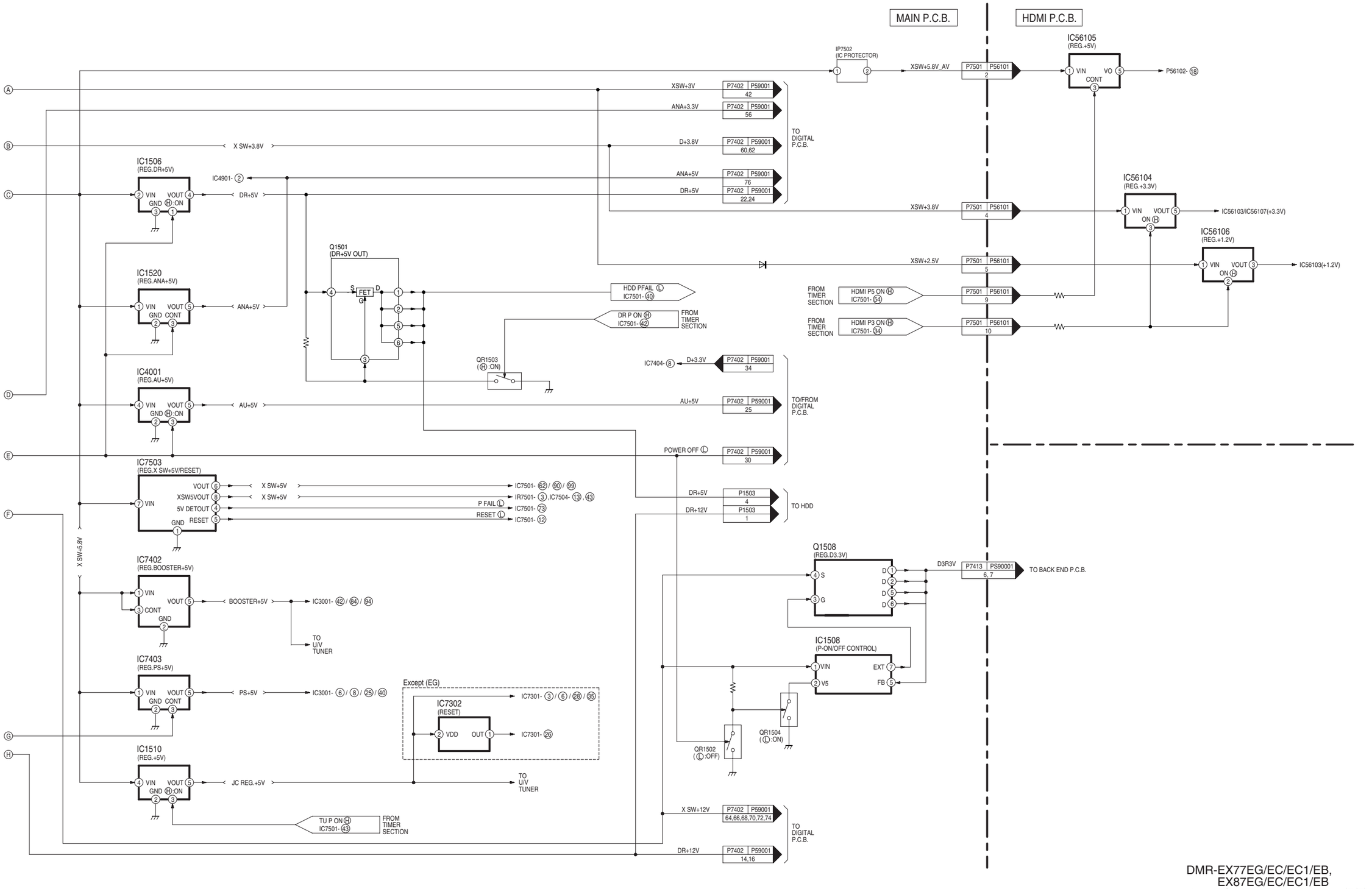
Item	Contents	Check	Item	Contents	Check
Picture	Block noise		Sound	Distorted sound	
	Crosscut noise			Noise (static, background noise, etc.)	
	Dot noise			The sound level is too low.	
	Picture disruption			The sound level is too high.	
	Not bright enough			The sound level changes.	
	Too bright				
	Flickering color				
	Color fading				

11 Block Diagram

11.1. Power Supply Block Diagram

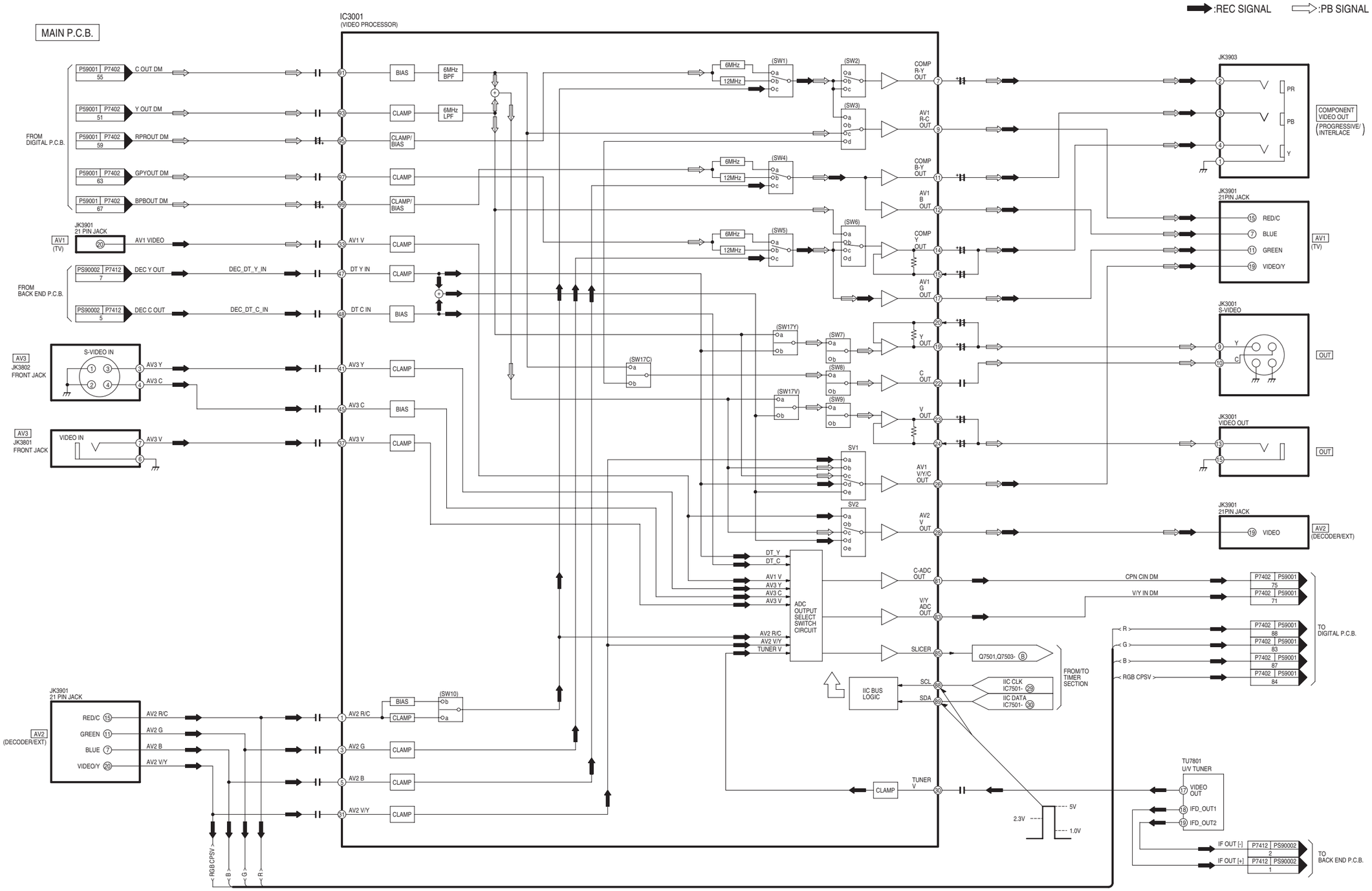


DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Power Supply Block Diagram (1/2)



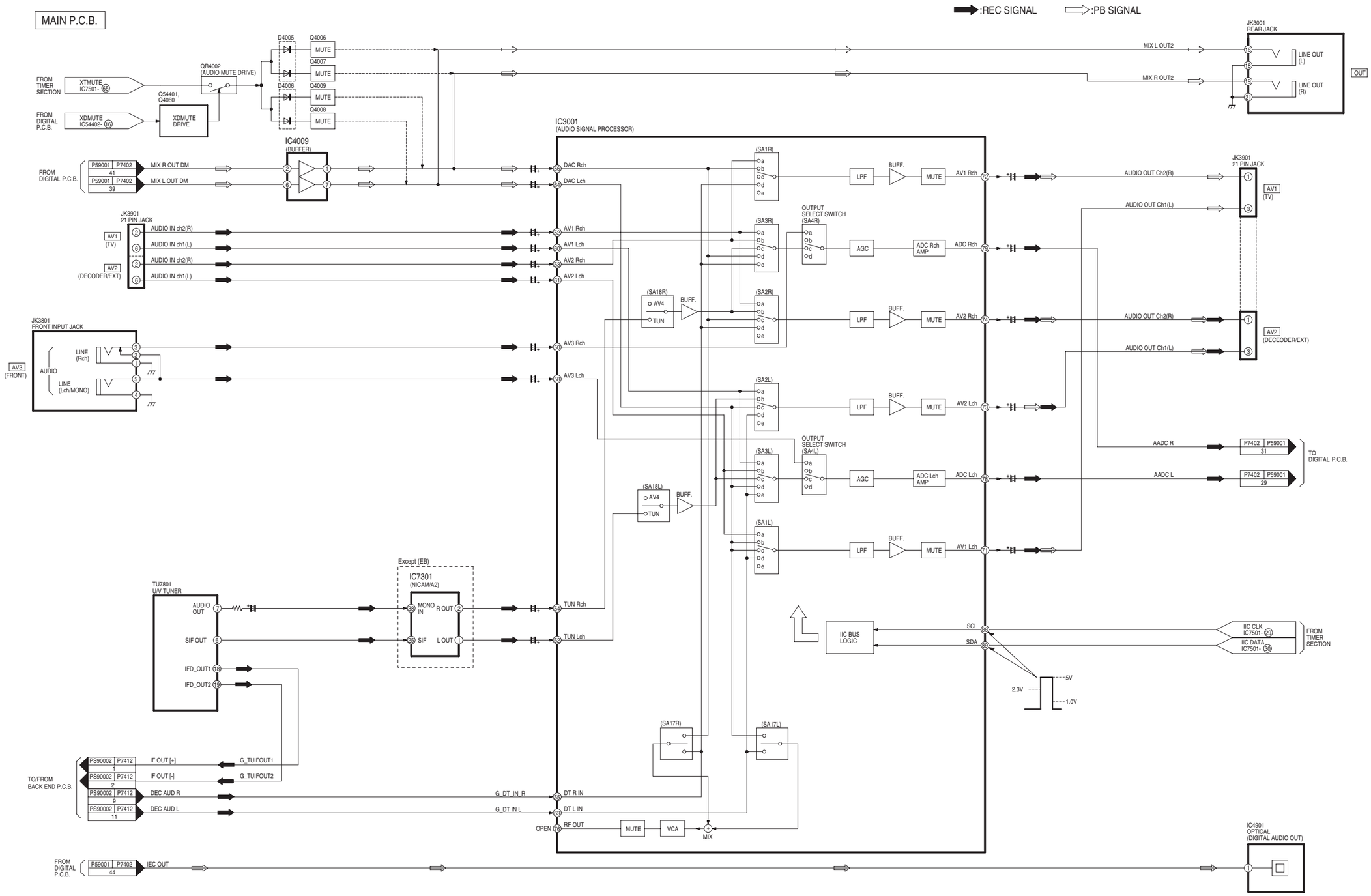
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Power Supply Block Diagram (2/2)

11.2. Analog Video Block Diagram



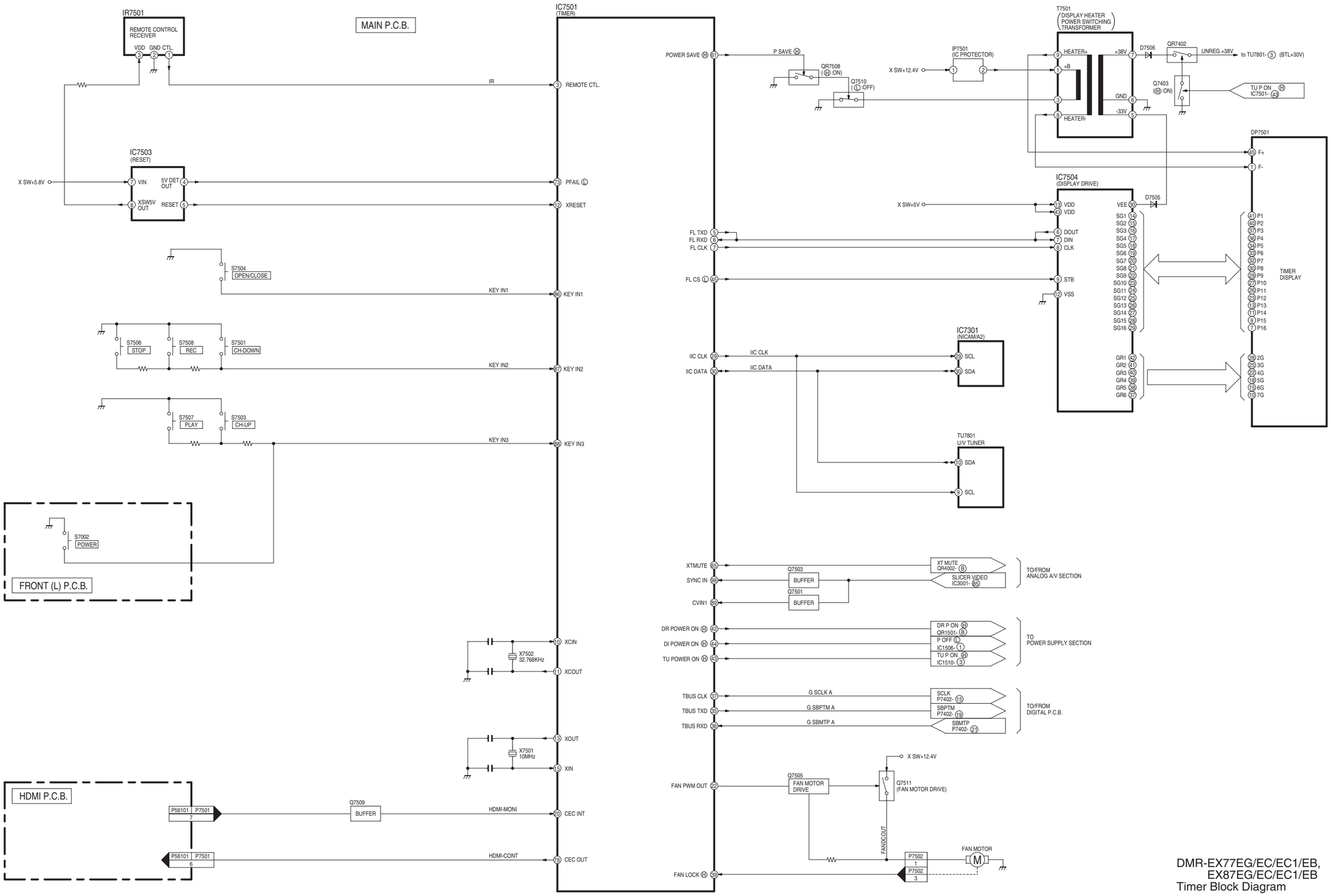
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Analog Video Block Diagram

11.3. Analog Audio Block Diagram



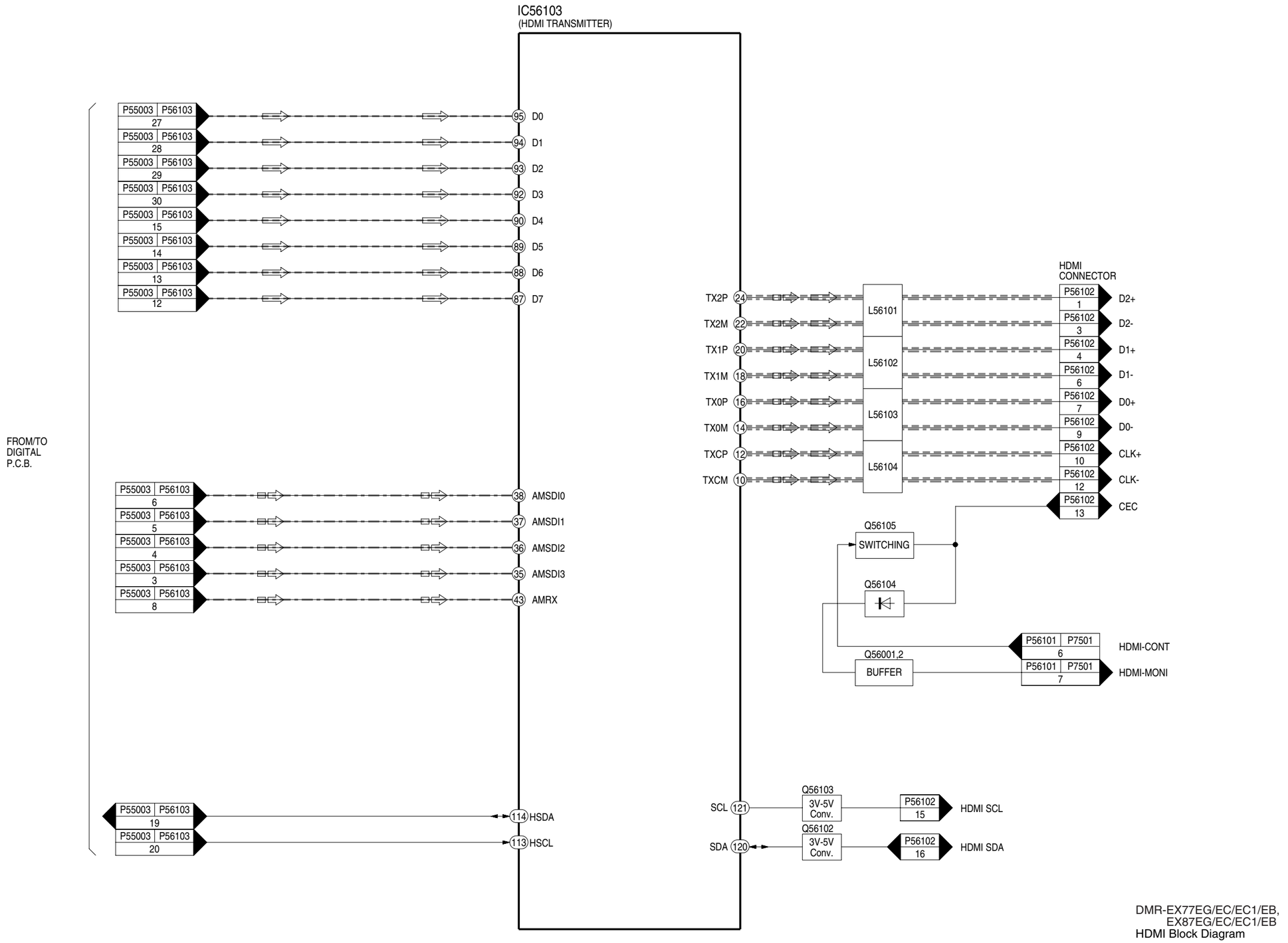
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Analog Audio Block Diagram

11.4. Analog Timer Block Diagram



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Timer Block Diagram

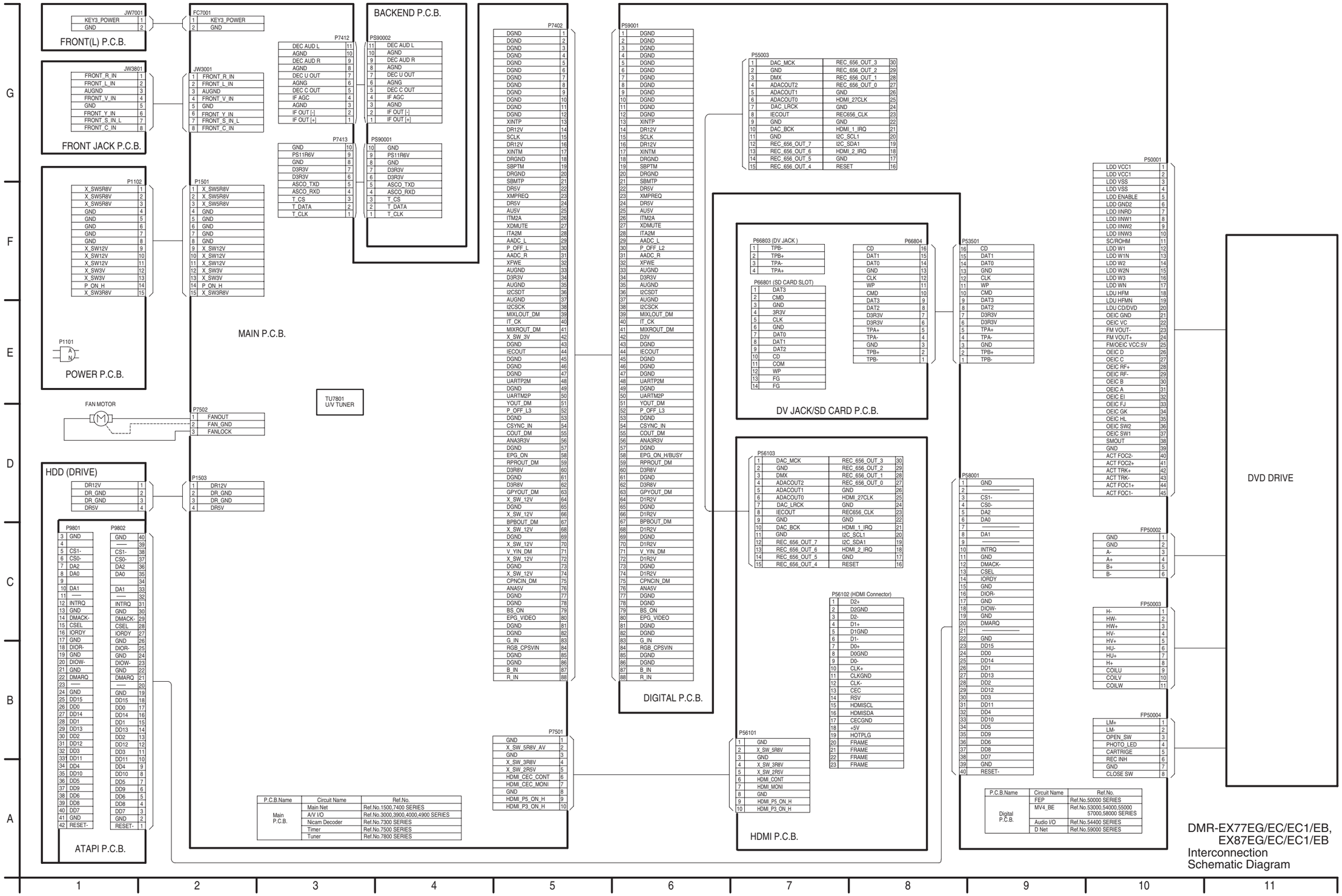
11.5. HDMI Block Diagram



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
HDMI Block Diagram

12 Schematic Diagram

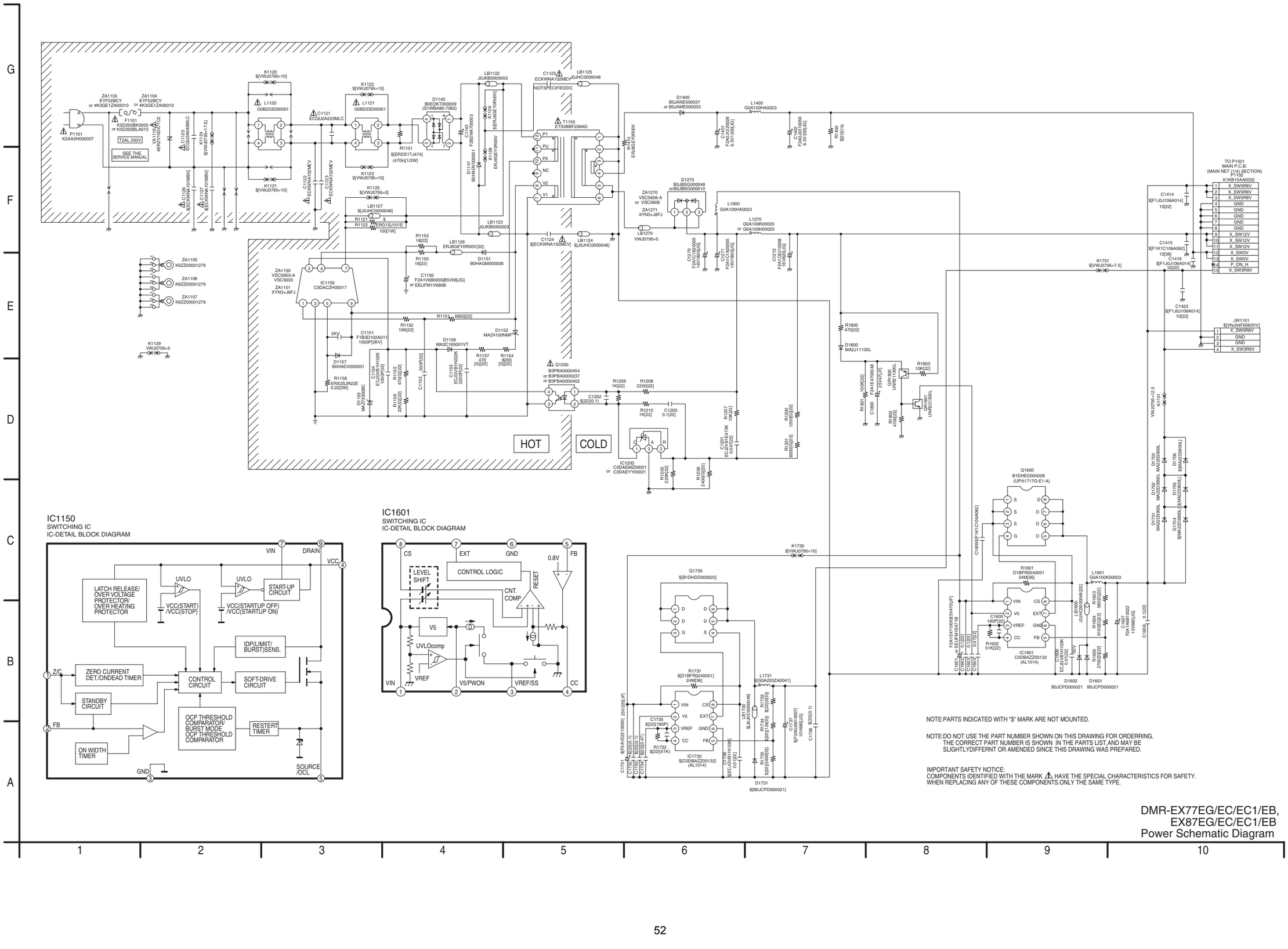
12.1. Interconnection Schematic Diagram



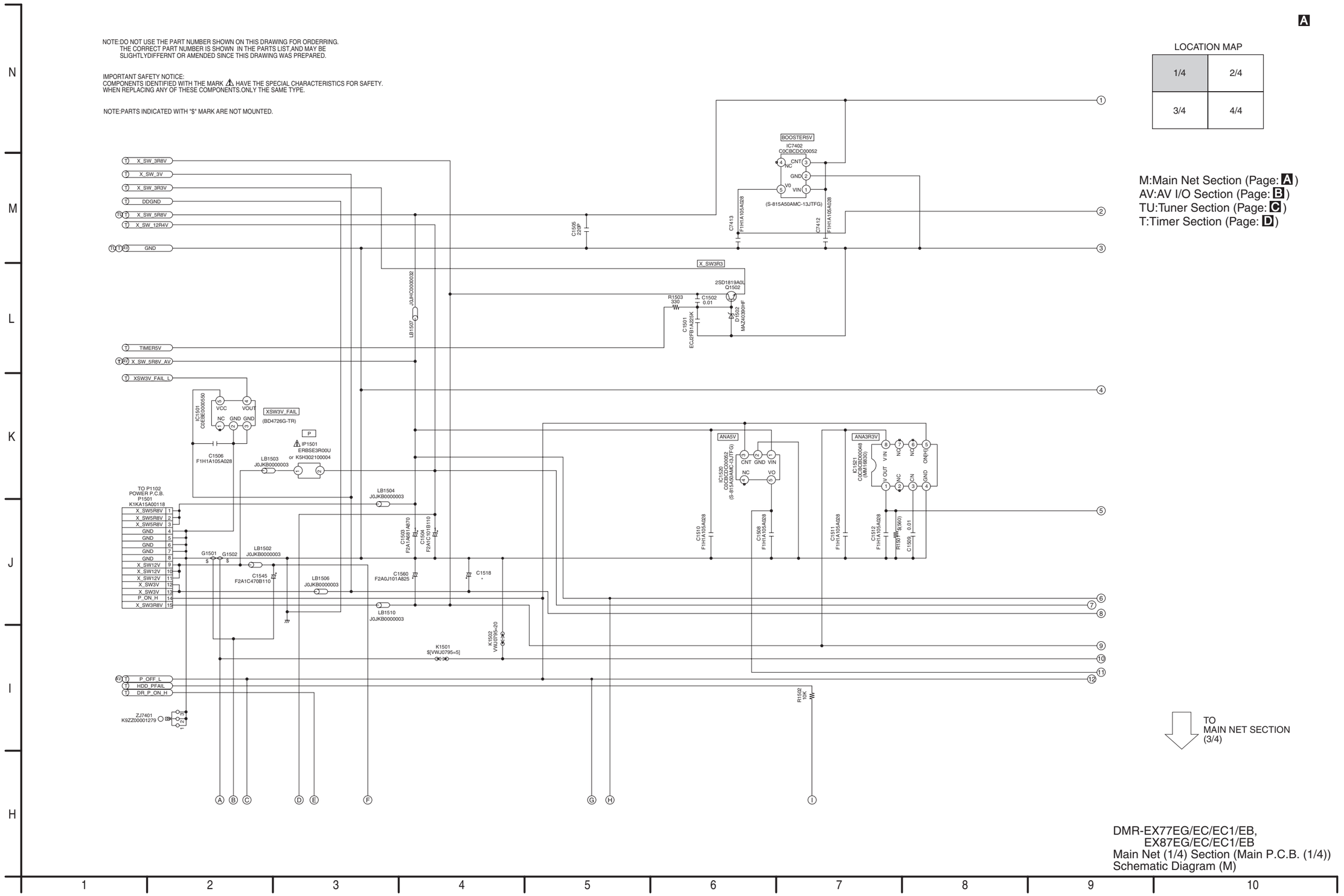
P.C.B.Name	Circuit Name	Ref.No.
Main P.C.B.	Main Net	Ref.No.1500,7400 SERIES
	A/V I/O	Ref.No.3000,3900,4000,4900 SERIES
	Nicam Decoder	Ref.No.7300 SERIES
	Timer	Ref.No.7500 SERIES
	Tuner	Ref.No.7800 SERIES

P.C.B.Name	Circuit Name	Ref.No.
Digital P.C.B.	FEP	Ref.No.50000 SERIES
	MV4_BE	Ref.No.53000,54000,55000 57000,58000 SERIES
	Audio I/O	Ref.No.54400 SERIES
	D Net	Ref.No.59000 SERIES

12.2. Power Supply Schematic Diagram

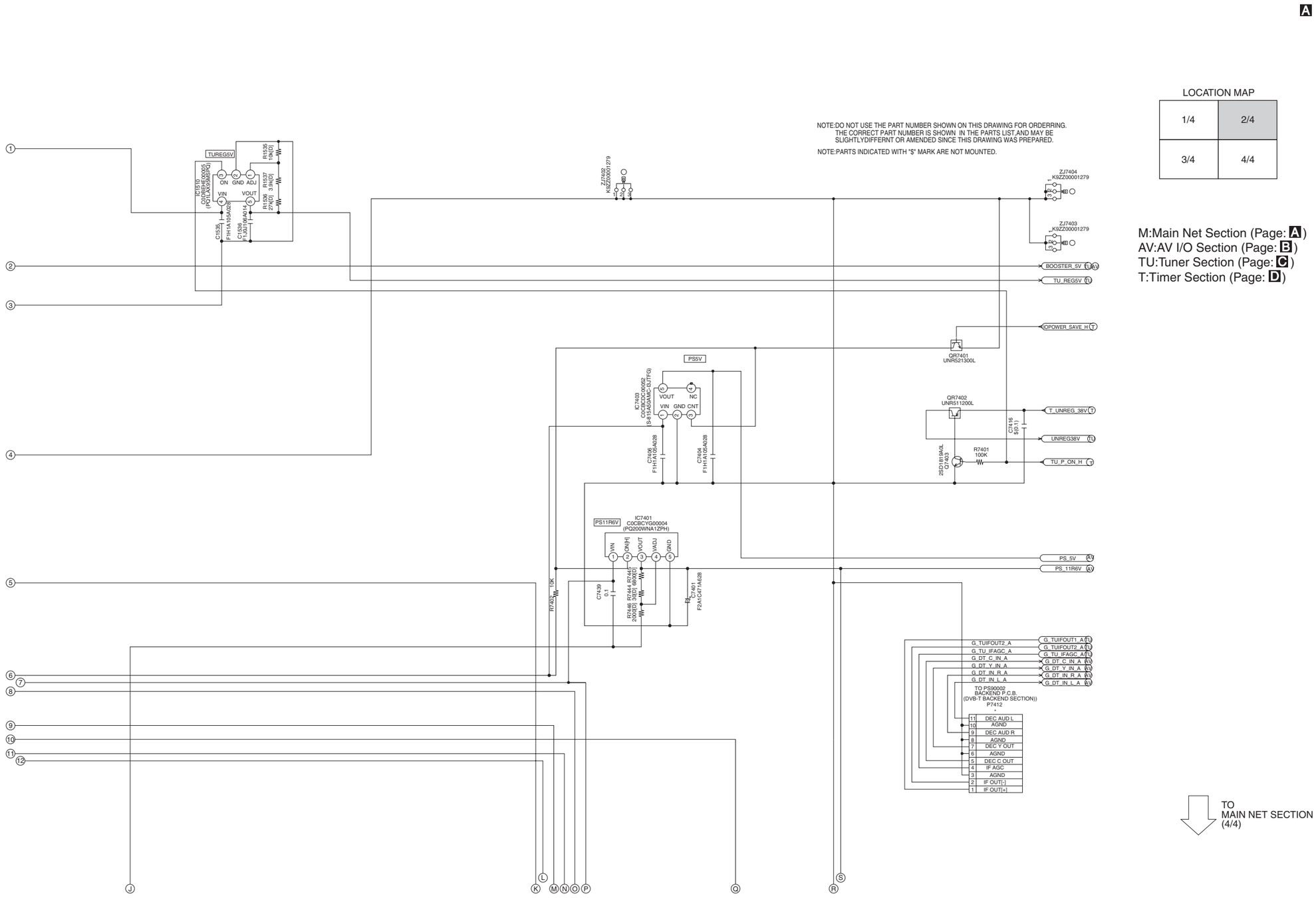


12.3. Main Net (1/4) Section (Main P.C.B. (1/4)) Schematic Diagram (M)



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main Net (1/4) Section (Main P.C.B. (1/4))
Schematic Diagram (M)

12.4. Main Net (2/4) Section (Main P.C.B. (1/4)) Schematic Diagram (M)



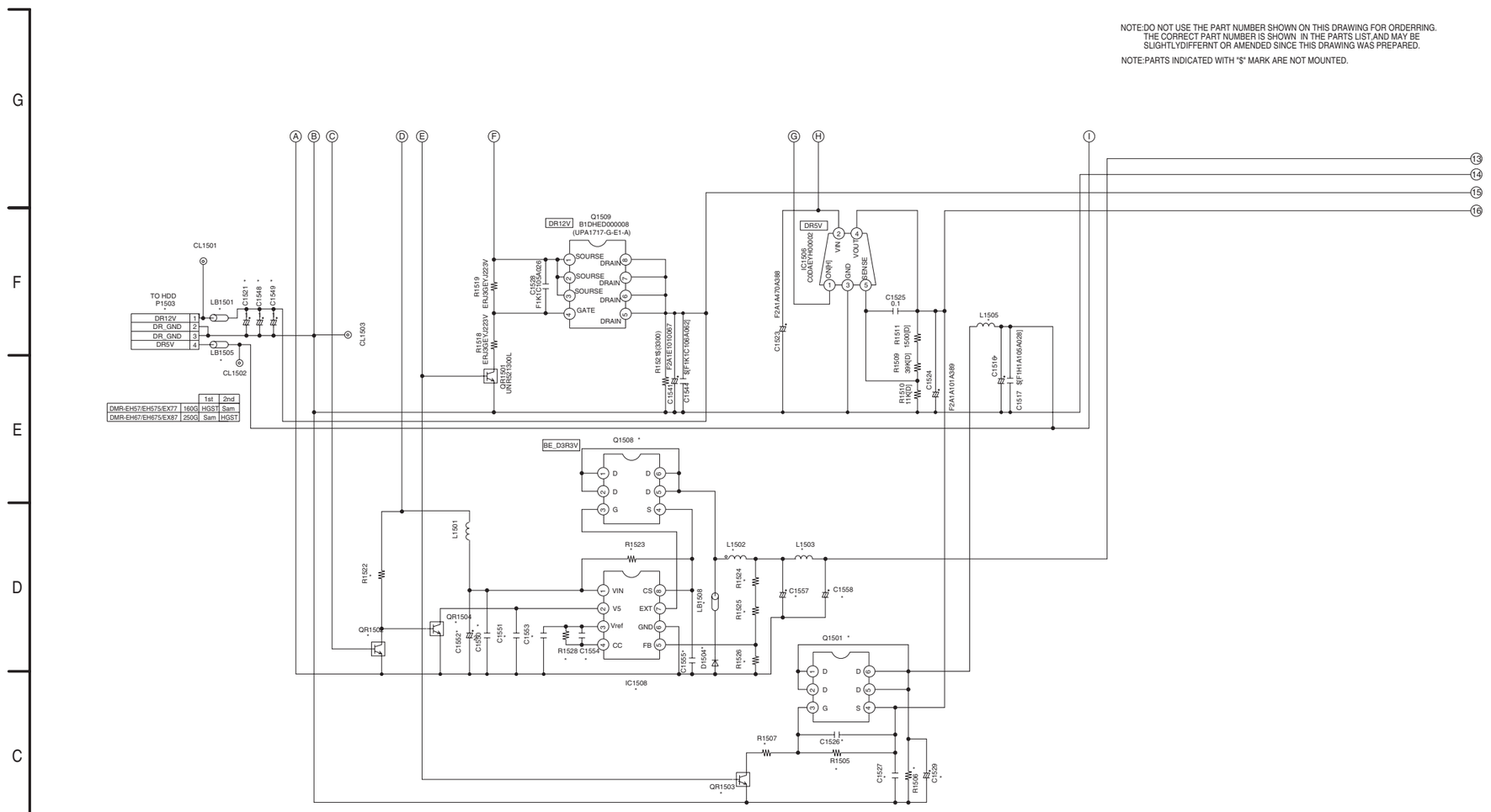
LOCATION MAP

1/4	2/4
3/4	4/4

M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main Net (2/4) Section (Main P.C.B. (1/4))
Schematic Diagram (M)

12.5. Main Net (3/4) Section (Main P.C.B. (1/4)) Schematic Diagram (M)



Modify Category

	Variation	Type
1	DMR-EH57EG	A
2	DMR-EH57EC	B
3	DMR-EH57EP	C
4	DMR-EH57GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH675GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN,DMR-EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH675EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JISSOU	Z

Variation Category

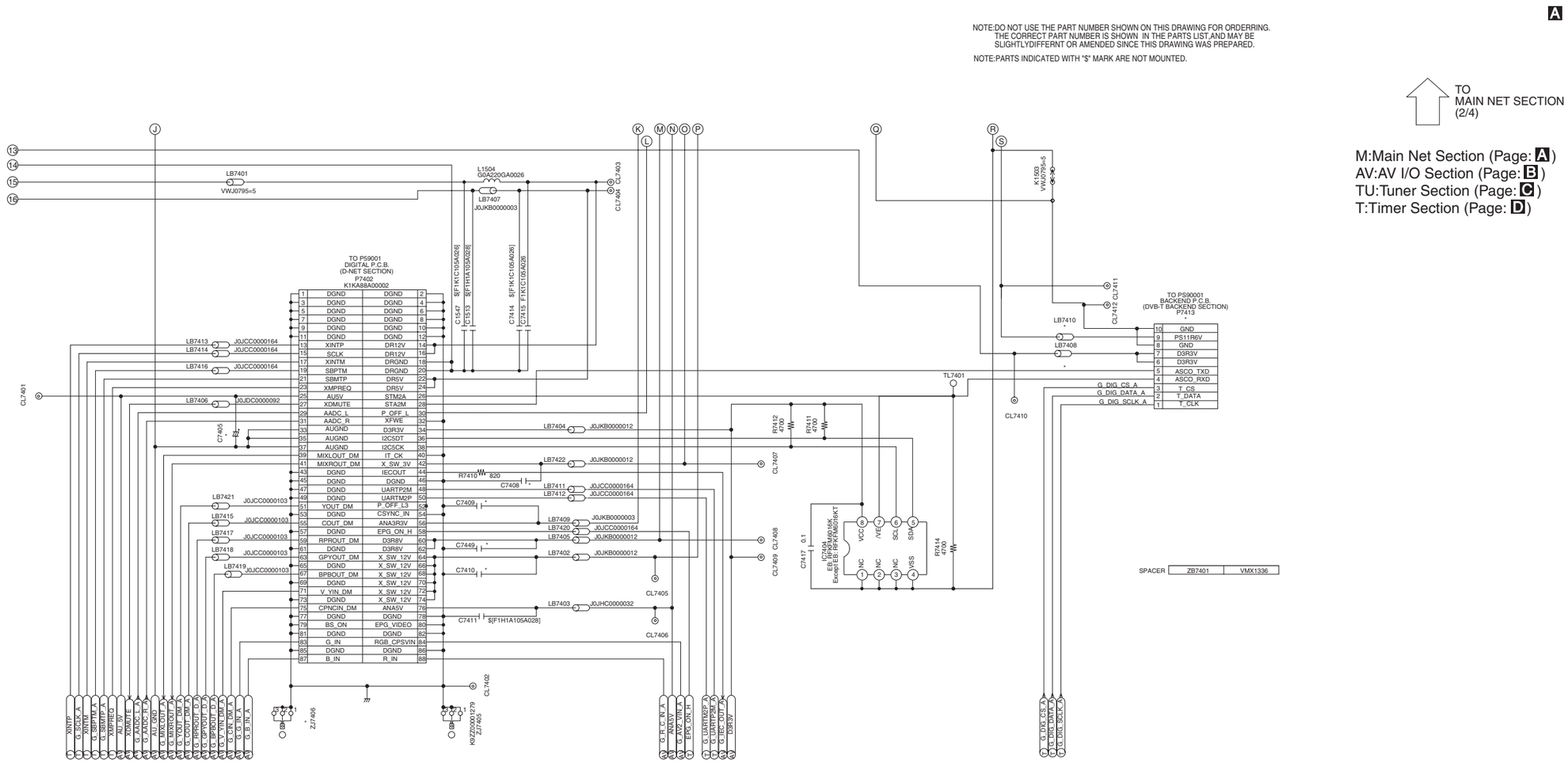
	A	B	C/R	D	E/F/Q	G	H/J/L/M	K	N	P	S	T/U/Y/X	Z
C1516	F2A1H1510006	F2A1H1510006	F2A1H1510006	F2A1H1510006	F2A1H1510006	F2A1H1510006	F2A1H1510006	F2A1H1510006	F2A1H1510006	$[F2A1H1510006]	F2A1H1510006	F2A1H1510006	F2A1H1510006
C1518	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J681A833	F2A0J101A825	F2A0J681A833	F2A0J681A833	F2A0J681A833
C1521	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	$[F2A1C121A453]	F2A1C121A453	F2A1C121A453	F2A1C121A453
C1526	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	$[F1H1A105A028]	F1H1A105A028	F1H1A105A028	F1H1A105A028
C1527	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	F1H1A105A028	$[F1H1A105A028]	F1H1A105A028	F1H1A105A028	F1H1A105A028
C1529	F2A1A470A388	F2A1A470A388	F2A1A470A388	F2A1A470A388	F2A1A470A388	F2A1A470A388	F2A1A470A388	F2A1A470A388	F2A1A470A388	$[F2A1A470A388]	F2A1A470A388	F2A1A470A388	F2A1A470A388
C1548	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	$[F2A1C121A453]	F2A1C121A453	F2A1C121A453	F2A1C121A453
C1549	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	$[F2A1C121A453]	F2A1C121A453	F2A1C121A453	F2A1C121A453
C1550	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1	$(0.1)	0.1	0.1
C1551	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1	$(0.1)	0.1	0.1
C1552	$[F2A1C3310045]	$[F2A1C3310045]	$[F2A1C3310045]	$[F2A1C3310045]	$[F2A1C3310045]	$[F2A1C3310045]	F2A1C3310045	F2A1C3310045	F2A1C3310045	F2A1C3310045	$[F2A1C3310045]	F2A1C3310045	F2A1C3310045
C1553	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1	$(0.1)	0.1	0.1
C1554	$(27P)	$(27P)	$(27P)	$(27P)	$(27P)	$(27P)	27P	27P	27P	27P	$(27P)	27P	27P
C1555	$(0.01)	$(0.01)	$(0.01)	$(0.01)	$(0.01)	$(0.01)	0.01	0.01	0.01	0.01	$(0.01)	0.01	0.01
C1557	$[F2A0J6810007]	$[F2A0J6810007]	$[F2A0J6810007]	$[F2A0J6810007]	$[F2A0J6810007]	$[F2A0J6810007]	F2A0J6810007	F2A0J6810007	F2A0J6810007	F2A0J6810007	$[F2A0J6810007]	F2A0J6810007	F2A0J6810007
C1558	$[F2A1A1010072]	$[F2A1A1010072]	$[F2A1A1010072]	$[F2A1A1010072]	$[F2A1A1010072]	$[F2A1A1010072]	F2A1A1010072	F2A1A1010072	F2A1A1010072	F2A1A1010072	$[F2A1A1010072]	F2A1A1010072	F2A1A1010072
C7405	$[F2A1C220B173]	$[F2A1C220B173]	$[F2A1C220B173]	$[F2A1C220B173]	$[F2A1C220B173]	F2A1C470A689	F2A1A2210063	F2A1A2210063	F2A1A2210063	F2A1C220B173]	F2A1C220B173	F2A1A2210063	F2A1A2210063
C7408	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	$(1000P)	1000P	1000P	1000P
C7409	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	$(1000P)	1000P	1000P	1000P
C7410	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	$(1000P)	1000P	1000P	1000P
C7449	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	1000P	$(1000P)	1000P	1000P	1000P
D1504	$[B0JCPD000021]	$[B0JCPD000021]	$[B0JCPD000021]	$[B0JCPD000021]	$[B0JCPD000021]	$[B0JCPD000021]	B0JCPD000021	B0JCPD000021	B0JCPD000021	B0JCPD000021	$[B0JCPD000021]	B0JCPD000021	B0JCPD000021
IC1508	$[C0DBAYY00219]	$[C0DBAYY00219]	$[C0DBAYY00219]	$[C0DBAYY00219]	$[C0DBAYY00219]	$[C0DBAYY00219]	C0DBAYY00219	C0DBAYY00219	C0DBAYY00219	C0DBAYY00219	$[C0DBAYY00219]	C0DBAYY00219	C0DBAYY00219
L1501	$[G0A100HA0023]	$[G0A100HA0023]	$[G0A100HA0023]	$[G0A100HA0023]	$[G0A100HA0023]	$[G0A100HA0023]	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	$[G0A100HA0023]	G0A100HA0023	G0A100HA0023
L1502	$[G0A150ZA0041]	$[G0A150ZA0041]	$[G0A150ZA0041]	$[G0A150ZA0041]	$[G0A150ZA0041]	$[G0A150ZA0041]	G0A150ZA0041	G0A150ZA0041	G0A150ZA0041	G0A150ZA0041	$[G0A150ZA0041]	G0A150ZA0041	G0A150ZA0041
L1503	$[VWJ0795=5]	$[VWJ0795=5]	$[VWJ0795=5]	$[VWJ0795=5]	$[VWJ0795=5]	$[VWJ0795=5]	VWJ0795=5	VWJ0795=5	VWJ0795=5	VWJ0795=5	$[VWJ0795=5]	VWJ0795=5	VWJ0795=5
L1505	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	G0A100HA0023	$[G0A100HA0023]	G0A100HA0023	G0A100HA0023

LOCATION MAP

1/4	2/4
3/4	4/4

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main Net (3/4) Section (Main P.C.B. (1/4))
Schematic Diagram (M)

12.6. Main Net (4/4) Section (Main P.C.B. (1/4)) Schematic Diagram (M)



Modify Category

	Variation	Type
1	DMR-EH57EG	A
2	DMR-EH57EC	B
3	DMR-EH57EP	C
4	DMR-EH57GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH67GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN,DMR-EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH675EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JISSOU	Z

Variation Category1

	A	B	C/R	D	E/F/Q	G	H/J/L/M	K	N	P	S	T/U/V/Y/X	Z
LB1501	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V
LB1505	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V
LB1508	$[J0JHC0000048]	$[J0JHC0000048]	$[J0JHC0000048]	$[J0JHC0000048]	$[J0JHC0000048]	$[J0JHC0000048]	J0JHC0000048	J0JHC0000048	J0JHC0000048	J0JHC0000048	$[J0JHC0000048]	J0JHC0000048	J0JHC0000048
LB7408	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	J0JGC0000020	J0JGC0000020	J0JGC0000020	J0JGC0000020	$[J0JGC0000020]	J0JGC0000020	J0JGC0000020
LB7410	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	$[J0JGC0000020]	J0JGC0000020	J0JGC0000020	J0JGC0000020	J0JGC0000020	$[J0JGC0000020]	J0JGC0000020	J0JGC0000020
P1503	K1KA04AA0301	K1KA04AA0301	K1KA04AA0301	K1KA04AA0180 [K1KA04AA0301	K1KA04AA0301	K1KA04AA0180 [K1KA04AA0301	K1KA04AA0301	K1KA04AA0301	K1KA04AA0180 [K1KA04AA0301	K1KA04AA0301]	$[K1KA04AA0301]	K1KA04AA0301	K1KA04AA0301	K1KA04AA0301
P7412	$[K1KA11AA0031]	$[K1KA11AA0031]	$[K1KA11AA0031]	$[K1KA11AA0031]	$[K1KA11AA0031]	$[K1KA11AA0031]	K1KA11AA0031	K1KA11AA0031	K1KA11AA0031	K1KA11AA0031	$[K1KA11AA0031]	K1KA11AA0031	K1KA11AA0031
P7413	$[K1KA10AA0031]	$[K1KA10AA0031]	$[K1KA10AA0031]	$[K1KA10AA0031]	$[K1KA10AA0031]	$[K1KA10AA0031]	K1KA10AA0031	K1KA10AA0031	K1KA10AA0031	K1KA10AA0031	$[K1KA10AA0031]	K1KA10AA0031	K1KA10AA0031
Q1501	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	B1DHDC0000027	$[B1DHDC0000027]	B1DHDC0000027	B1DHDC0000027
Q1508	$[B1DHDD0000029]	$[B1DHDD0000029]	$[B1DHDD0000029]	$[B1DHDD0000029]	$[B1DHDD0000029]	$[B1DHDD0000029]	B1DHDD0000029	B1DHDD0000029	B1DHDD0000029	B1DHDD0000029	$[B1DHDD0000029]	B1DHDD0000029	B1DHDD0000029
QR1502	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	UNR521300L	UNR521300L	UNR521300L	UNR521300L	$[UNR521300L]	UNR521300L	UNR521300L
QR1503	UNR521300L	UNR521300L	UNR521300L	UNR521300L	UNR521300L	UNR521300L	UNR521300L	UNR521300L	UNR521300L	$[UNR521300L]	UNR521300L	UNR521300L	UNR521300L
QR1504	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	$[UNR521300L]	UNR521300L	UNR521300L	UNR521300L	UNR521300L	$[UNR521300L]	UNR521300L	UNR521300L
R1505	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	ERJ3GEYJ823V	$[ERJ3GEYJ823V]	ERJ3GEYJ823V	ERJ3GEYJ823V
R1506	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	ERJ3GEYJ222V	$[ERJ3GEYJ222V]	ERJ3GEYJ222V	ERJ3GEYJ222V
R1507	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	ERJ3GEYJ822V	$[ERJ3GEYJ822V]	ERJ3GEYJ822V	ERJ3GEYJ822V
R1522	$(4700)	$(4700)	$(4700)	$(4700)	$(4700)	$(4700)	4700	4700	4700	4700	$(4700)	4700	4700
R1523	$[D1BDR027A101]	$[D1BDR027A101]	$[D1BDR027A101]	$[D1BDR027A101]	$[D1BDR027A101]	$[D1BDR027A101]	D1BDR027A101	D1BDR027A101	D1BDR027A101	D1BDR027A101	$[D1BDR027A101]	D1BDR027A101	D1BDR027A101
R1524	$(820[D])	$(820[D])	$(820[D])	$(820[D])	$(820[D])	$(820[D])	820[D]	820[D]	820[D]	820[D]	$(820[D])	820[D]	820[D]
R1525	$(10k[D])	$(10k[D])	$(10k[D])	$(10k[D])	$(10k[D])	$(10k[D])	10k[D]	10k[D]	10k[D]	10k[D]	$(10k[D])	10k[D]	10k[D]
R1526	$(3300[D])	$(3300[D])	$(3300[D])	$(3300[D])	$(3300[D])	$(3300[D])	3300[D]	3300[D]	3300[D]	3300[D]	$(3300[D])	3300[D]	3300[D]
R1528	$(33k)	$(33k)	$(33k)	$(33k)	$(33k)	$(33k)	33k	33k	33k	33k	$(33k)	33k	33k
ZJ7406	K9ZZ00001279	K9ZZ00001279	K9ZZ00001279	K9ZZ00001279	K9ZZ00001279	K9ZZ00001279	$[K9ZZ00001279]	$[K9ZZ00001279]	$[K9ZZ00001279]	$[K9ZZ00001279]	K9ZZ00001279	$[K9ZZ00001279]	K9ZZ00001279
ZS1501	$[VFV0163]	$[VFV0163]	$[VFV0163]	$[VFV0163]	VFV0163	$[VFV0163]	$[VFV0163]	$[VFV0163]	$[VFV0163]	$[VFV0163]	$[VFV0163]	VFV0163	VFV0163
ZS1503	VFV0167	VFV0167	VFV0167	VFV0167	VFV0167	VFV0167	VFV0167	VFV0167	VFV0167	$[VFV0167]	VFV0167	VFV0167	VFV0167

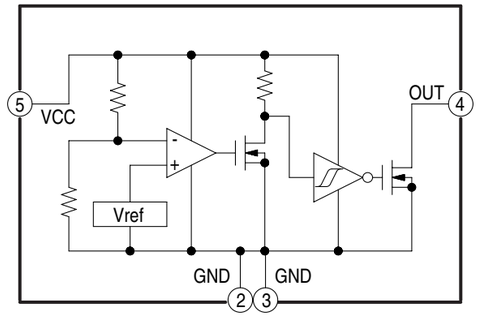
LOCATION MAP

1/4	2/4
3/4	4/4

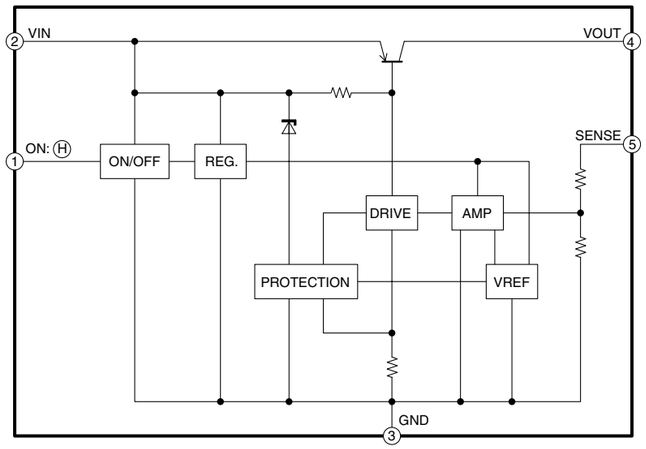
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main Net (4/4) Section (Main P.C.B. (1/4))
Schematic Diagram (M)

11 12 13 14 15 16 17 18 19 20

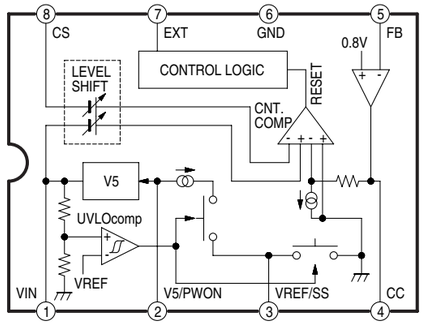
IC1501
RESET
IC-DETAIL BLOCK DIAGRAM



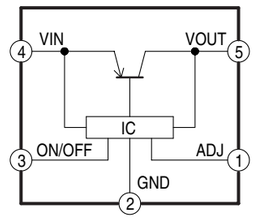
IC1506
DR +5V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



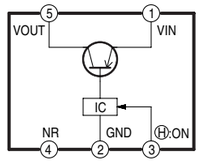
IC1508
SWITCHING IC
IC-DETAIL BLOCK DIAGRAM



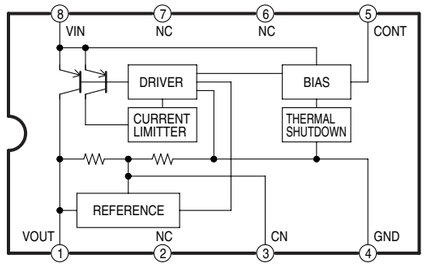
IC1510
TU +5V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



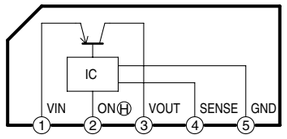
IC1520
ANA +5V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



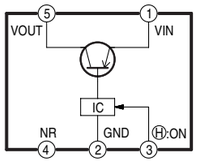
IC1521
ANA +3.3V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



IC7401
PS +11.6V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



IC7402,IC7403
BOOSTER +5V SWITCHING REGULATOR,
PS +5V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



IC1501 Detail Block Diagram
IC1506 Detail Block Diagram
IC1508 Detail Block Diagram
IC1510 Detail Block Diagram
IC1520 Detail Block Diagram
IC1521 Detail Block Diagram
IC7401 Detail Block Diagram
IC7402 Detail Block Diagram
IC7403 Detail Block Diagram
DMR-EX77EG/EC/EC1/EB,EX87EG/EC/EC1/EB IC-Detail Block Diagram

12.7. AV I/O (1/4) Section (Main P.C.B. (2/4)) Schematic Diagram (AV)

B

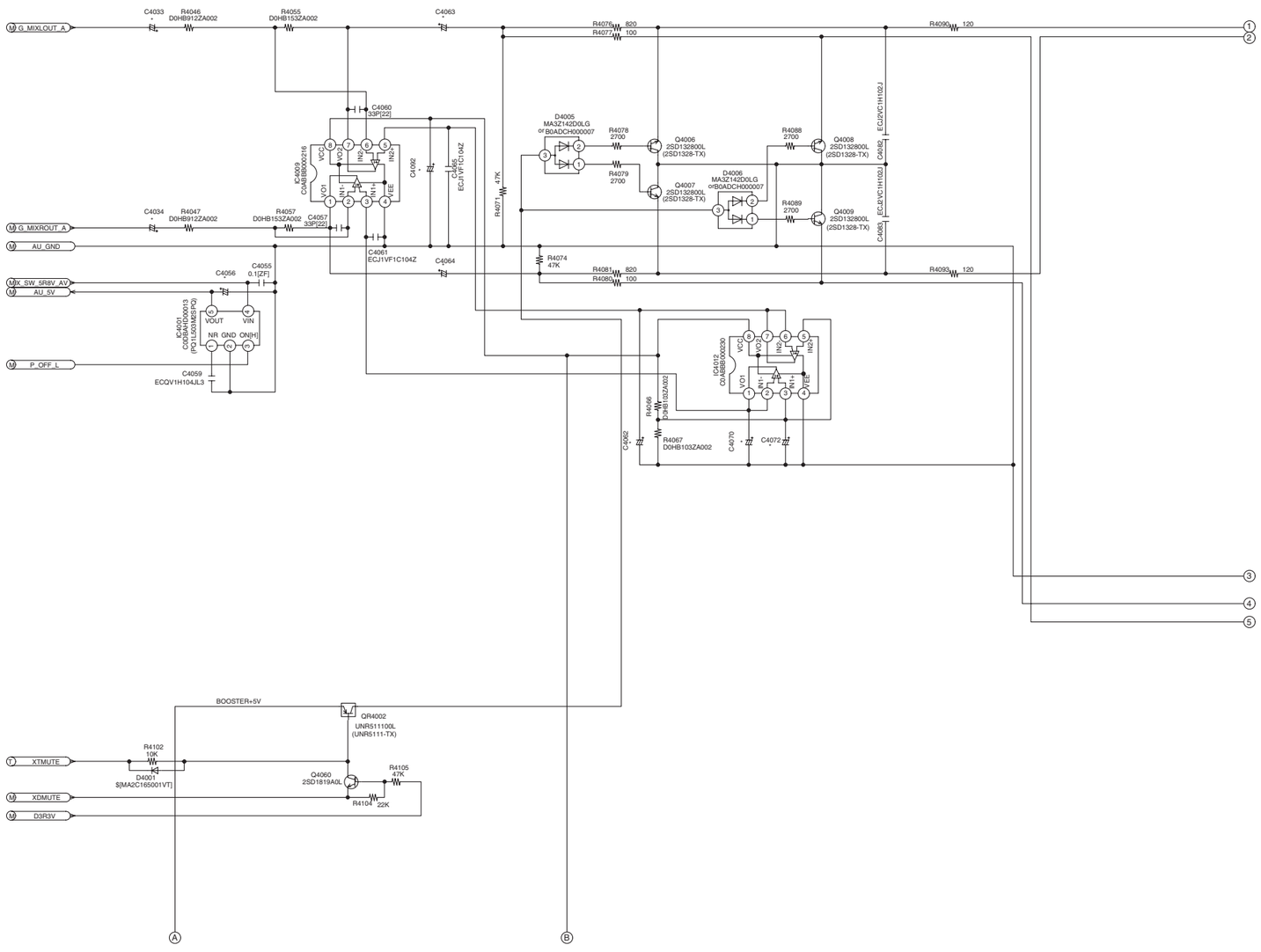
LOCATION MAP

1/4	2/4
3/4	4/4

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
AV I/O (1/4) Section (Main P.C.B. (2/4))
Schematic Diagram (AV)

12.8. AV I/O (2/4) Section (Main P.C.B. (2/4)) Schematic Diagram (AV)

B

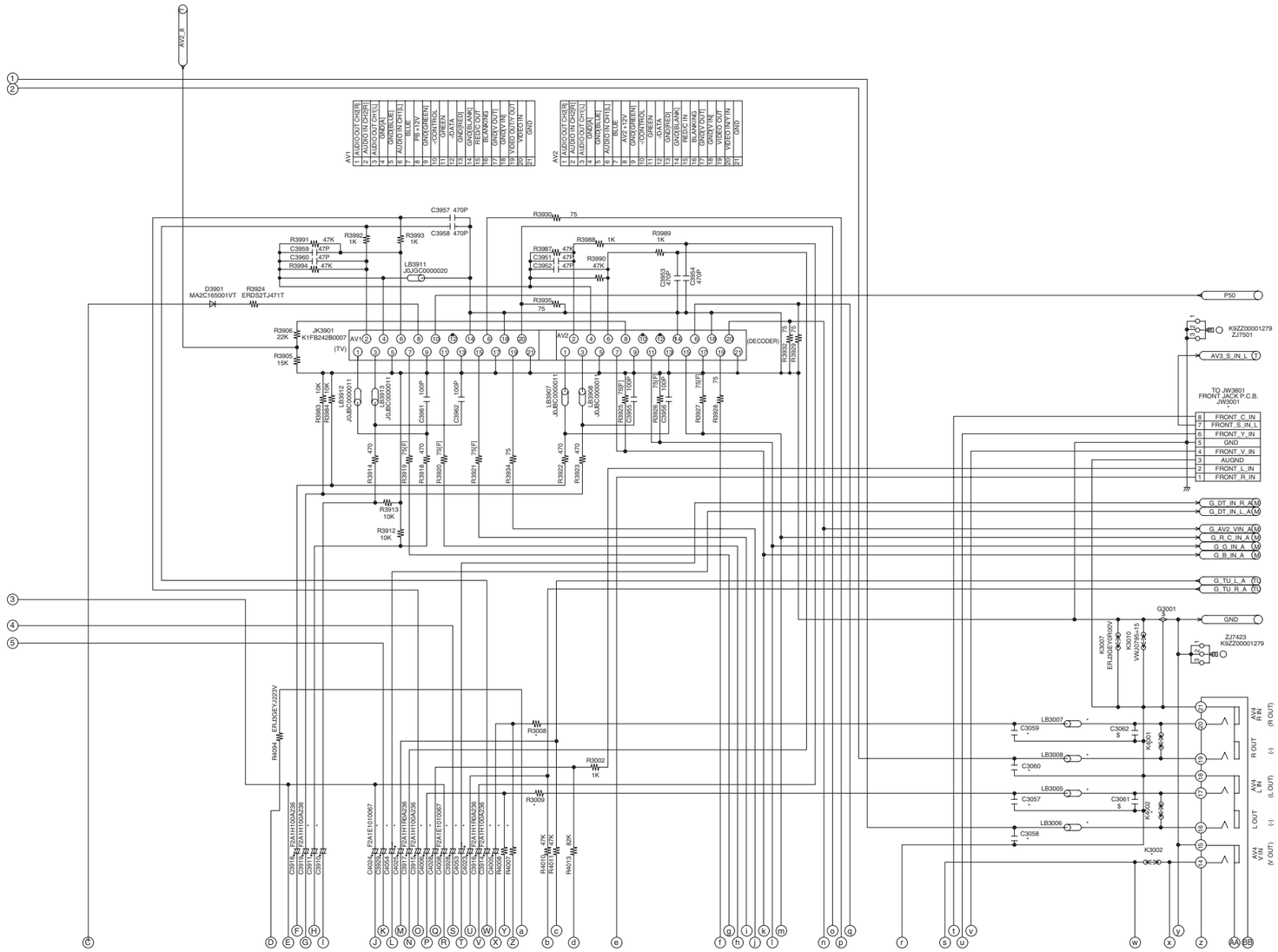
NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

LOCATION MAP

1/4	2/4
3/4	4/4

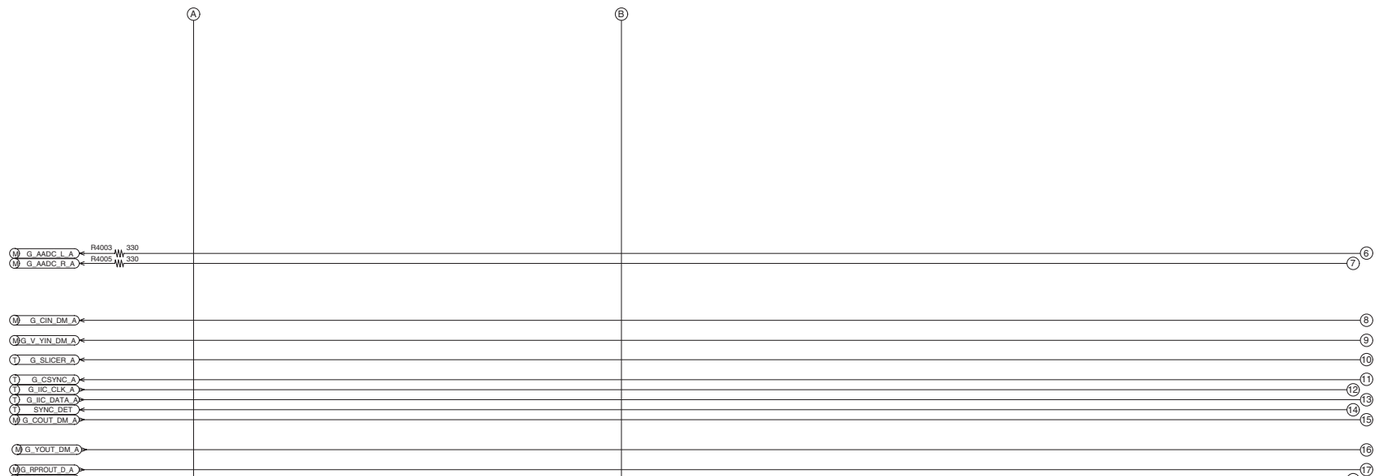
M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)


AV1
AV2
(TV)
(DECODER)
JK3901 K1FB242B0007
D3901 MA2C165001VT
R3924 ERD52TJ471T
LB3911 JOJGC0000020
C3957 470P
C3958 470P
R3990 75
R3989 1K
R3988 1K
R3987 47K
C3951 47P
C3952 47P
C3953 47P
C3954 470P
R3991 47K
C3959 47P
C3960 47P
R3994 47K
R3992 1K
R3993 1K
R3935 75
R3906 22K
R3905 15K
R3932 75
R3933 75
R3983 10K
R3984 10K
LB3912 JOJBC0000011
LB3913 JOJBC0000011
LB3907 JOJBC0000011
LB3908 JOJBC0000011
C3961 100P
C3962 100P
R3925 75[F]
C3955 100P
R3926 75[F]
C3956 100P
R3927 75[F]
R3928 75
R3914 470
R3919 75[F]
R3918 470
R3920 75[F]
R3921 75[F]
R3934 75
R3922 470
R3923 470
R3913 10K
R3912 10K
P50
K9ZZ00001279 ZJ7501
AV3_S_IN_L
TO JW3801 FRONT_JACK P.C.B. JW3001
FRONT_C_IN
FRONT_S_IN_L
FRONT_Y_IN
GND
FRONT_V_IN
AUGND
FRONT_L_IN
FRONT_R_IN
G_DT_IN_R_A
G_DT_IN_L_A
G_AV2_VIN_A
G_R_C_IN_A
G_G_IN_A
G_B_IN_A
G_TU_L_A
G_TU_R_A
G3001
GND
K3007 ERJ3GEF1002V
K3010 VWJ0795-15
ZJ7423 K9ZZ00001279
LB3007
C3059
C3062 $
K3001
LB3008
C3060
LB3005
C3057
C3061 $
K3002
LB3006
C3058
K3002
AV4 R IN (R OUT)
R OUT (-)
AV4 L IN (L OUT)
L OUT (-)
AV4 V IN (V OUT)
R4094 ERJ3GEYJ222V
R3008
R3002 1K
R3009
C4024 C4025 C4026 C4027 C4028 C4029 C4030 C4031 C4032 C4033 C4034 C4035 C4036 C4037 C4038 C4039 C4040 C4041 C4042 C4043 C4044 C4045 C4046 C4047 C4048 C4049 C4050 C4051 C4052 C4053 C4054 C4055 C4056 C4057 C4058 C4059 C4060 C4061 C4062 C4063

12.9. AV I/O (3/4) Section (Main P.C.B. (2/4)) Schematic Diagram (AV)

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.



TO
AV I/O SECTION
(1/4)

M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)

Modify Category

	Variation Type	
1	DMR-EH575EG	A
2	DMR-EH57EC	B
3	DMR-EH57EP	C
4	DMR-EH57GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH57GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN,EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH675EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JISSOU	Z

Variation Category

	A/B/C	D	E	F	G	H/J/L/M/T/U/V/Y	K/X	N	P	Q	R	S	Z
C3014	0.1	0.1	0.1	0.1	0.1	0.1	$(0.1)	0.1	$(0.1)	0.1	0.1	0.1	0.1
C3017	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	0.1	0.1
C3019	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	0.1	0.1
C3021	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	$(0.1)	$(0.1)	0.1	0.1	0.1
C3024	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	$(0.1)	0.1	$(0.1)	$(0.1)	$(0.1)	0.1
C3036	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1	$(0.1)	$(0.1)	$(0.1)	0.1
C3037	$(0.1)	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1	$(0.1)	$(0.1)	$(0.1)	0.1
C3038	0.1	0.1	0.1	0.1	0.1	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1
C3039	0.1	0.1	0.1	0.1	0.1	$(0.1)	$(0.1)	$(0.1)	$(0.1)	0.1	0.1	0.1	0.1
C3040	0.1	$(0.1)	0.1	0.1	$(0.1)	0.1	0.1	$(0.1)	0.1	0.1	$(0.1)	$(0.1)	0.1
C3041	0.1	$(0.1)	0.1	0.1	$(0.1)	0.1	0.1	$(0.1)	0.1	0.1	$(0.1)	$(0.1)	0.1
C3042	0.1	$(0.1)	0.1	0.1	$(0.1)	0.1	0.1	$(0.1)	0.1	0.1	$(0.1)	$(0.1)	0.1
C3057	$(470P)	470P	$(470P)	$(470P)	470P	$(470P)	$(470P)	470P	$(470P)	$(470P)	470P	470P	470P
C3058	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P
C3059	$(470P)	470P	$(470P)	$(470P)	470P	$(470P)	$(470P)	470P	$(470P)	$(470P)	470P	470P	470P
C3060	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P	470P
C3910	F2A1V100A534	F2A1H100A236	F2A1V100A534	F2A1V100A534	F2A1H100A236	F2A1V100A534	F2A1V100A534	F2A1H100A236	F2A1H100A236	F2A1V100A534	F2A1H1BA236	F2A1V100A534	F2A1V100A534
C3911	F2A1V100A534	F2A1H100A236	F2A1V100A534	F2A1V100A534	F2A1H100A236	F2A1V100A534	F2A1V100A534	F2A1H100A236	F2A1H100A236	F2A1V100A534	F2A1H1BA236	F2A1V100A534	F2A1V100A534
C3928	F2A1H1R0A638	F2A1H1R0A638	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1H1R0A638	F2A1V100A534	F2A1H1BA638	F2A1V100A534	F2A1V100A534
C3929	F2A1H1R0A638	F2A1H1R0A638	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1H1R0A638	F2A1V100A534	F2A1H1BA638	F2A1V100A534	F2A1V100A534
C3935	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E230500	F2A1E2210050	F2A1E2210050	F2A1E2210050
C4005	$(F2A1H100A236)	F2A1H100A236	$(F2A1V100A534)	$(F2A1V100A534)	F2A1V100A534	$(F2A1V100A534)	$(F2A1V100A534)	$(F2A1V100A534)	F2A1V100A534	$(F2A1H100A236)	$(F2A1V100A534)	F2A1H100A236	F2A1V100A534
C4006	$(F2A1H100A236)	F2A1H100A236	$(F2A1V100A534)	$(F2A1V100A534)	F2A1V100A534	$(F2A1V100A534)	$(F2A1V100A534)	F2A1V100A534	$(F2A1H100A236)	$(F2A1V100A534)	F2A1H100A236	F2A1V100A534	F2A1V100A534
C4019	F2A1V100A534	F2A1V100A534	F2A1C100A796	F2A1C100A796	F2A1C100A796	F2A1C100A796	F2A1C101A637	F2A1C101A637	F2A1C101A637	F2A1C100A796	F2A1V1BA534	F2A1C100A796	F2A1C101A637
C4021	F2A1V100A534	F2A1V100A534	F2A1C100A796	F2A1C100A796	F2A1C100A796	F2A1C101A637	F2A1C101A637	F2A1C101A637	F2A1C101A637	F2A1C100A796	F2A1V1BA534	F2A1C100A796	F2A1C101A637
C4023	F2A1H1R0A236	F2A1H1R0A236	F2A1H1R0A638	F2A1H1R0A638	F2A1H1R0A638	F2A1H1R0A638	$(F2A1H100A236)	F2A1H1R0A638	$(F2A1H100A236)	F2A1H1R0A638	F2A1H1R0A236	F2A1H1R0A638	F2A1H1R0A638
C4025	F2A1H1R0A236	F2A1H1R0A236	F2A1H1R0A638	F2A1H1R0A638	F2A1H1R0A638	F2A1H1R0A638	$(F2A1H100A236)	F2A1H1R0A638	$(F2A1H100A236)	F2A1H1R0A638	F2A1H1R0A236	F2A1H1R0A638	F2A1H1R0A638
C4027	F2A1H100A236	F2A1H100A236	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1H100A236	F2A1V100A534	F2A1H1BA236	F2A1V100A534	F2A1V100A534
C4028	F2A1H100A236	F2A1H100A236	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1H100A236	F2A1V100A534	F2A1H1BA236	F2A1V100A534	F2A1V100A534
C4033	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C470A637	F2A1C220B173	F2A1C2BB173	F2A1C220B173	F2A1C220B173
C4034	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C470A637	F2A1C220B173	F2A1C2BB173	F2A1C220B173	F2A1C220B173
C4053	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1H100A236	$(F2A1H100A236)	$(F2A1H100A236)	F2A1H100A236
C4054	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	$(F2A1H100A236)	F2A1V100A534	F2A1V100A534	F2A1V100A534	F2A1H100A236	$(F2A1H100A236)	$(F2A1H100A236)	F2A1H100A236
C4056	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1C471A628	F2A1C471A628	F2A1C471A628	F2A1A471A550	F2A1A47A550	F2A1A471A550	F2A1C471A628
C4062	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1C470A637	F2A1A471A550	F2A1A47A550	F2A1A471A550	F2A1A471A550
C4063	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C470A637	F2A1C220B173	F2A1C2BB173	F2A1C220B173	F2A1C220B173
C4064	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C220B173	F2A1C470A637	F2A1C220B173	F2A1C2BB173	F2A1C220B173	F2A1C220B173
C4067	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E2210050	F2A1E4700048	F2A1E2210050	F2A1E230500	F2A1E2210050	F2A1E2210050
C4070	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1A471A550	F2A1C470A637	F2A1A471A550	F2A1A47A550	F2A1A471A550	F2A1A471A550
C4072	F2A1C470A637	F2A1C470A637	F2A1C221A637	F2A1C221A637	F2A1C221A637	F2A1C221A637	F2A1C221A637	F2A1C221A637	F2A1C470A637	F2A1C221A637	F2A1C4BA637	F2A1C221A637	F2A1C221A637
C4092	F2A1C221A637	F2A1C221A637	F2A1C471A637	F2A1C471A637	F2A1C471A637	F2A1C471A637	F2A1C471A637	F2A1C471A637	F2A1C471A637	F2A1C101A637	F2A1C471A637	F2A1C2BA637	F2A1C471A637

LOCATION MAP

1/4	2/4
3/4	4/4

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
AV I/O (3/4) Section (Main P.C.B. (2/4))
Schematic Diagram (AV)

12.10. AV I/O (4/4) Section (Main P.C.B. (2/4)) Schematic Diagram (AV)

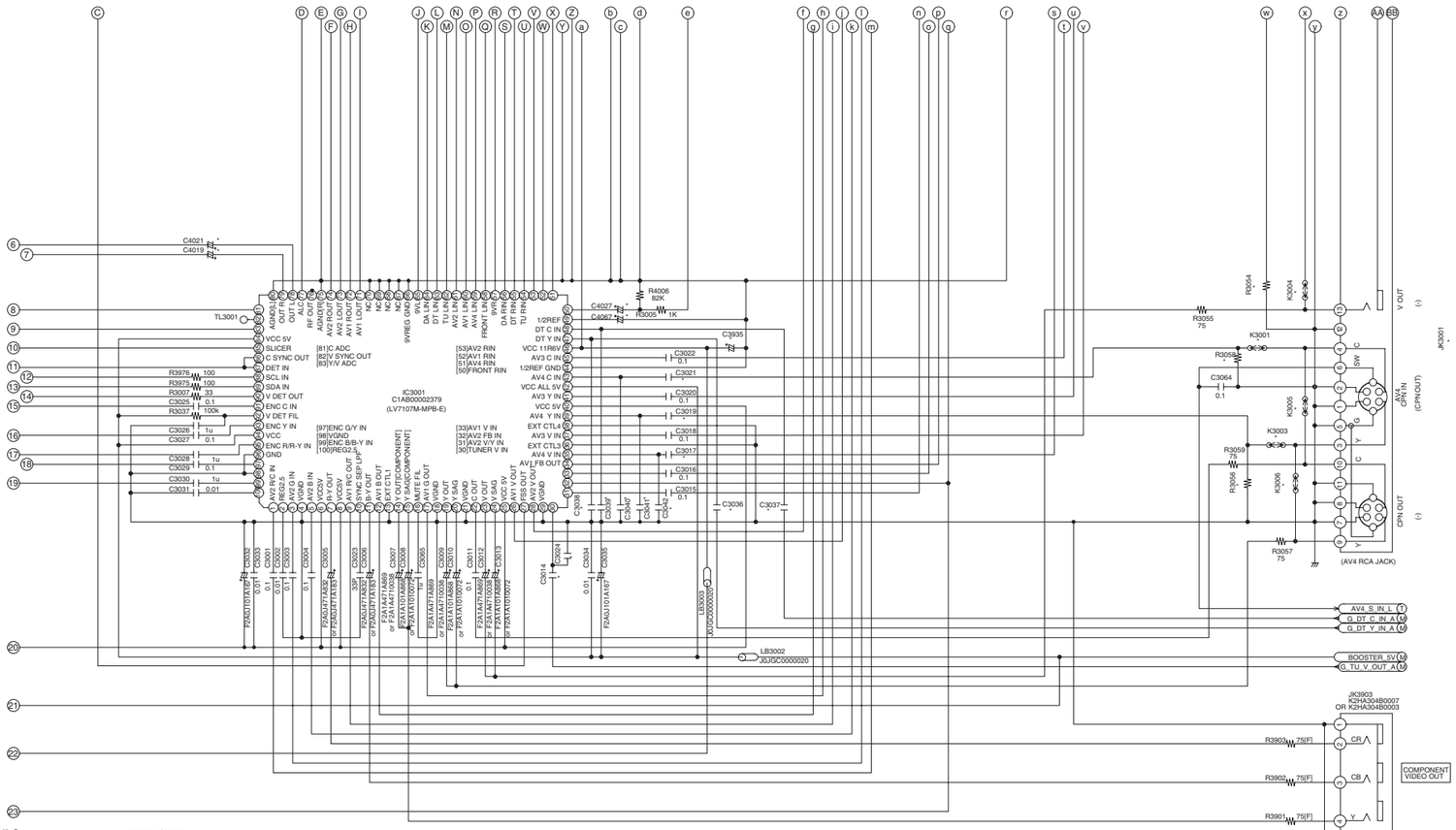
NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

B

TO
AV I/O SECTION
(2/4)

M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)



Modify Category

	Variation Type	
1	DMR-EH575EG	A
2	DMR-EH57EC	B
3	DMR-EH57EP	C
4	DMR-EH57GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH67GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN,EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH675EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JISSOU	Z

Variation Category1

	A/B/C	D	E	F	G	H/J/L/M/T/U/V/Y	K/X	N	P	Q	R	S	Z
JK3001	K2HE109B0001 [K1U412B00001	K2HE219B0004 [K1U822B00003	K2HE109B0001 [K1U412B00001	K2HE109B0001 [K1U412B00001	K2HE219B0004 [K1U822B00003	K2HE109B0001 [K1U412B00001	K2HE109B0001 [K1U412B00001	K2HE219B0004 [K1U822B00003	K2HE109B0001 [K1U412B00001	K2HE109B0001 [K1U412B00001	K2HE219B0004 [K1U822B00003	K2HE219B0004 [K1U822B00003	K2HE219B0004 [K1U822B00003
JW3001	VWJ08H6074VV	VWJ08H4072VV	VWJ08H6074VV	VWJ08H6074VV	VWJ08H4072VV	VWJ08H6074VV	VWJ08H6074VV	VWJ08H4072VV	VWJ08H6074VV	VWJ08H6074VV	VWJ08H4072VV	VWJ08H6074VV	VWJ08H6074VV
K3001	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K3002	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K3003	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K3004	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K3005	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K3006	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K4001	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K4002	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
LB3005	$[JOJBC0000011]	JOJBC0000011	$[JOJBC0000011]	$[JOJBC0000011]	JOJBC0000011	$[JOJBC0000011]	$[JOJBC0000011]	JOJBC0000011	$[JOJBC0000011]	$[JOJBC0000011]	JOJBC0000011	JOJBC0000011	JOJBC0000011
LB3006	JOJBC0000011	J0JGC0000020	JOJBC0000011	JOJBC0000011	J0JGC0000020	JOJBC0000011	JOJBC0000011	J0JGC0000020	JOJBC0000011	JOJBC0000011	J0JGC0000020	J0JGC0000020	J0JGC0000020
LB3007	$[JOJBC0000011]	J0JBC0000011	$[JOJBC0000011]	$[JOJBC0000011]	J0JBC0000011	$[JOJBC0000011]	$[JOJBC0000011]	J0JBC0000011	$[JOJBC0000011]	$[JOJBC0000011]	J0JBC0000011	J0JBC0000011	J0JBC0000011
LB3008	JOJBC0000011	J0JGC0000020	JOJBC0000011	JOJBC0000011	J0JGC0000020	JOJBC0000011	JOJBC0000011	J0JGC0000020	JOJBC0000011	JOJBC0000011	J0JGC0000020	J0JGC0000020	J0JGC0000020
R3008	$(1K)	1K	$(1K)	$(1K)	1K	$(1K)	$(1K)	1K	$(1K)	$(1K)	1K	1K	1K
R3009	$(1K)	1K	$(1K)	$(1K)	1K	$(1K)	$(1K)	1K	$(1K)	$(1K)	1K	1K	1K
R3054	$(75)	75	$(75)	$(75)	75	$(75)	$(75)	75	$(75)	$(75)	75	75	75
R3056	$(75)	75	$(75)	$(75)	75	$(75)	$(75)	75	$(75)	$(75)	75	75	75
R3058	$(75)	75	$(75)	$(75)	75	$(75)	$(75)	75	$(75)	$(75)	75	75	75
R4007	$(82K)	82K	$(82K)	$(82K)	82K	$(82K)	$(82K)	82K	$(82K)	$(82K)	82K	82K	82K
R4008	$(82K)	82K	$(62K)	$(82K)	82K	$(82K)	$(82K)	82K	$(82K)	$(82K)	82K	82K	82K

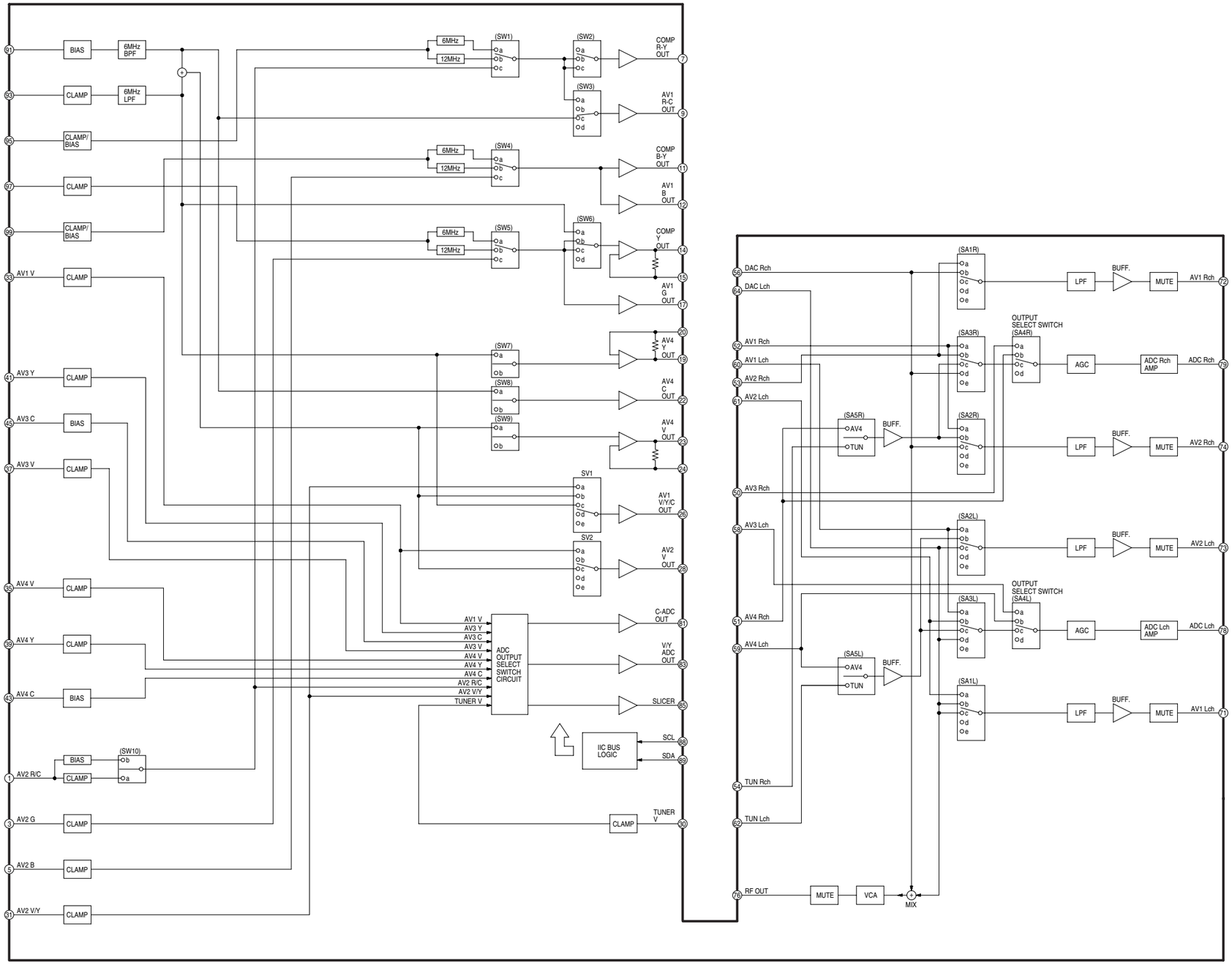
LOCATION MAP

1/4	2/4
3/4	4/4

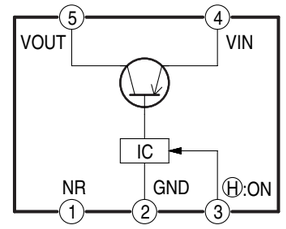
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
AV I/O (4/4) Section (Main P.C.B. (2/4))
Schematic Diagram (AV)

11 12 13 14 15 16 17 18 19 20

IC3001
VIDEO/AUDIO PROCESSOR
IC-DETAIL BLOCK DIAGRAM



IC4001
AU +5V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



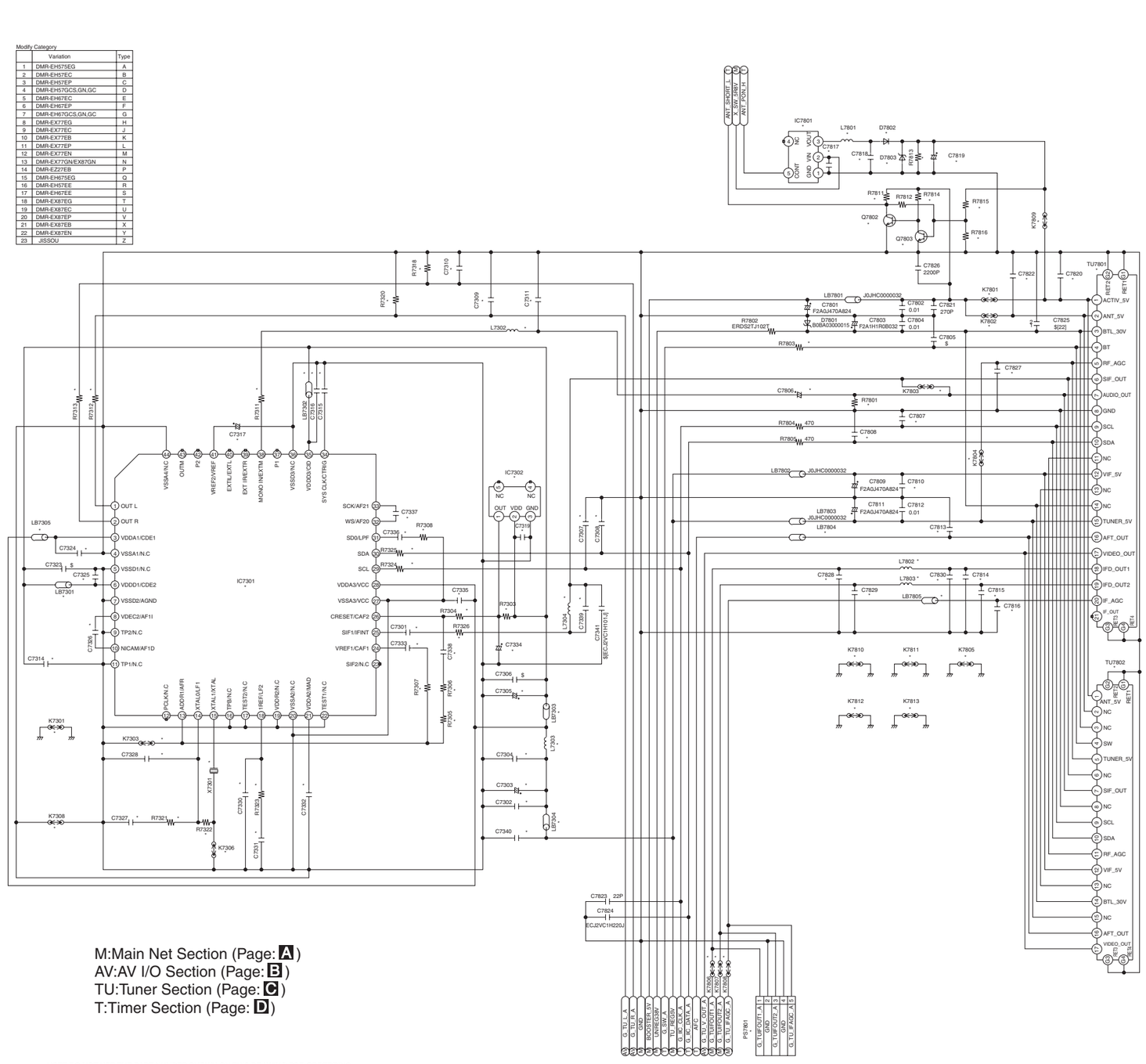
IC3001 Detail Block Diagram
IC4001 Detail Block Diagram
DMR-EX77EG/EC/EC1/EB,EX87EG/EC/EC1/EB IC-Detail Block Diagram

12.11. Tuner Section (Main P.C.B. (3/4)) Schematic Diagram (TU)

C

Modify Category

	Variation	Type
1	DMR-EH575EG	A
2	DMR-EH575EC	B
3	DMR-EH575EP	C
4	DMR-EH57GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH67GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN/EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH67EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JISSOU	Z



M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)

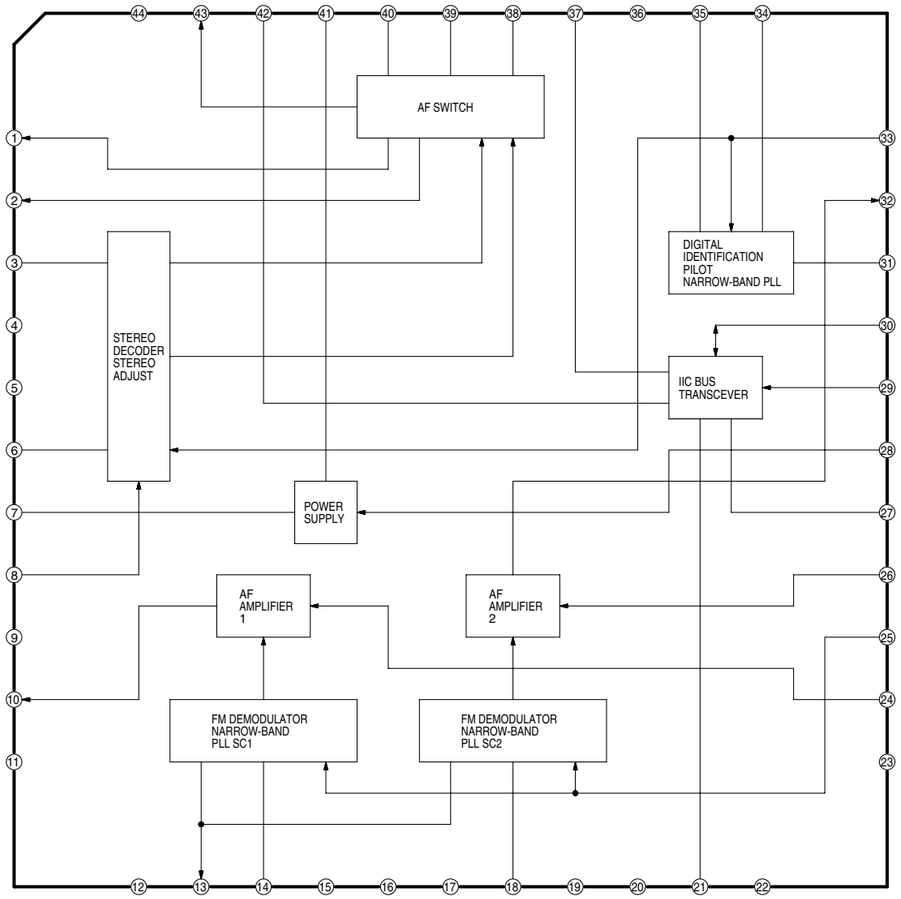
NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.
NOTE:PARTS INDICATED WITH '$' MARK ARE NOT MOUNTED.

Variation Category

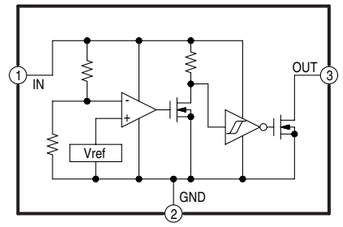
	A/Q	B/E	C/D/F/G/R/S	H/T	J/L/U/V	K/X	M/Y	N	P	Z
C7301	0.01	0.1	0.1	0.01	0.1	$	0.1	0.01	$	0.1
C7302	$	EC J2VC1H102J	EC J2VC1H102J	$	EC J2VC1H102J	$	EC J2VC1H102J	$	$	EC J2VC1H102J
C7303	F2AJ101A825 F2AJ101A245	F2AJ101A825 F2AJ101A245	F2AJ101A825 F2AJ101A245	F2AJ101A825 F2AJ101A245	F2AJ101A825 F2AJ101A245	$	F2AJ101A825 F2AJ101A245	F2AJ101A825 F2AJ101A245	$	F2AJ101A825 F2AJ101A245
C7304	0.1	$	$	0.1	$	$	$	0.1	$	0.1
C7305	$	F2AJ101A825 F2AJ101A245	F2AJ101A825 F2AJ101A245	$	F2AJ101A825 F2AJ101A245	$	F2AJ101A825 F2AJ101A245	$	$	F2AJ101A825 F2AJ101A245
C7307	$	10P	10P	$	10P	$	10P	$	$	10P
C7308	$	10P	10P	$	10P	$	10P	$	$	10P
C7309	1500P	100P	100P	1500P	100P	$	100P	1500P	$	100P
C7310	1500P	100P	100P	1500P	100P	$	100P	1500P	$	100P
C7311	$	1000P	$	$	1000P	$	1000P	$	$	1000P
C7314	$	33P	33P	$	33P	$	33P	$	$	33P
C7315	ECJ1VB1A474K	$	$	ECJ1VB1A474K	$	$	$	ECJ1VB1A474K	$	ECJ1VB1A474K
C7316	4700P	$	$	4700P	$	$	$	4700P	$	4700P
C7317	F2AGJ470A245	F2AGJ470A245	F2AGJ470A245	F2AGJ470A245	F2AGJ470A245	$	F2AGJ470A245	F2AGJ470A245	$	F2AGJ470A245
C7319	$	0.1	0.1	$	0.1	$	0.1	$	$	0.1
C7324	0.01	0.1	0.1	0.01	0.1	$	0.1	0.01	$	0.1
C7325	0.01	$	$	0.01	$	$	$	0.01	$	0.01
C7326	ECJ1VB1A474K	$	$	ECJ1VB1A474K	$	$	$	ECJ1VB1A474K	$	ECJ1VB1A474K
C7327	0.012	$	$	0.012	$	$	$	0.012	$	0.012
C7328	680P	$	$	680P	$	$	$	680P	$	680P
C7330	EC J1VC1H681J	ERJ3GEYJ822V	ERJ3GEYJ822V	EC J1VC1H681J	ERJ3GEYJ822V	$	ERJ3GEYJ822V	EC J1VC1H681J	$	ERJ3GEYJ822V
C7331	0.012	$	$	0.012	$	$	$	0.012	$	0.012
C7332	$	0.1	0.1	$	0.1	$	0.1	$	$	0.1
C7333	ECJ1VB1A474K	ECJ1VB1C104K	ECJ1VB1C104K	ECJ1VB1A474K	ECJ1VB1C104K	$	ECJ1VB1C104K	ECJ1VB1A474K	$	ECJ1VB1C104K
C7334	$	F2A1H2R2A234	F2A1H2R2A234	$	F2A1H2R2A234	$	F2A1H2R2A234	$	$	F2A1H2R2A234
C7335	0.01	0.1	0.1	0.01	0.1	$	0.1	0.01	$	0.1
C7336	0.1	$	$	0.1	$	$	$	0.1	$	0.1
C7337	ECJ1VB1A474K	$	$	ECJ1VB1A474K	$	$	$	ECJ1VB1A474K	$	ECJ1VB1A474K
C7338	ECJ1VB1A474K	$	$	ECJ1VB1A474K	$	$	$	ECJ1VB1A474K	$	ECJ1VB1A474K
C7339	EC J1VC1H090D	$	$	EC J1VC1H090D	$	$	$	EC J1VC1H090D	$	EC J1VC1H090D
C7340	0.1	$	$	0.1	$	$	$	0.1	$	0.1
C7806	$	F2A1C100A234	$	$	F2A1C100A234	$	F2A1C100A234	$	$	F2A1C100A234
C7807	33P	$	33P	$	$	$	$	$	$	33P
C7808	33P	$	33P	$	$	$	$	$	$	33P
C7810	0.01	0.01	0.01	0.01	0.01	$[0.01]	0.01	0.01	$	0.01
C7813	2200P	2200P	2200P	2200P	$	2200P	2200P	$	$	2200P
C7814	$	$	$	$	$	39P	$	$	39P	39P
C7815	$	$	$	68P	68P	39P	68P	68P	39P	39P
C7816	$	$	$	0.1	0.1	0.1	0.1	0.1	0.1	0.1
C7817	$	$	$	0.1	$	$	$	$	$	0.1
C7818	$	$	$	$[0.1]	$	$	$	$	$	0.1
C7819	$	$	$	F2AGJ470AB24 F2AGJ470A245	$	$	$	$	$	F2AGJ470AB24 F2AGJ470A245
C7820	$	2200P	680P	2200P	2200P	2200P	2200P	2200P	2200P	680P
C7822	$	EC J2VC1H681J	$	$	EC J2VC1H681J	$	EC J2VC1H681J	$	$	EC J2VC1H681J
C7827	$	$	$	220P	220P	220P	220P	220P	220P	220P
C7828	$	$	$	$	68P	$	68P	$	$	68P
C7829	$	$	$	$	68P	$	68P	$	$	68P
C7830	$	$	$	68P	68P	$	68P	68P	$	68P
D7802	$	$	$	MA2C72300F	$	$	$	$	$	MA2C72300F
D7803	$	$	$	MAZA051NMF	$	$	$	$	$	MAZA051NMF
IC7301	C0ZBZ0001081	C1AB00002225	C1AB00002225	C0ZBZ0001081	C1AB00002225	$	C1AB00002225	C0ZBZ0001081	$	C1AB00002225
IC7302	$	C0EBH0000454	C0EBH0000454	$	C0EBH0000454	$	C0EBH0000454	$	$	C0EBH0000454
IC7801	$	$	$	C0DBGYY00033	$	$	$	$	$	C0DBGYY00033
K7301	VWJ0795=7.5	$	$	VWJ0795=7.5	$	VWJ0795=7.5	$	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5
K7303	$	ERJ3GEY0R00V	ERJ3GEY0R00V	$	ERJ3GEY0R00V	$	ERJ3GEY0R00V	$	$	ERJ3GEY0R00V
K7306	ERJ3GEY0R00V	$	$	ERJ3GEY0R00V	$	$	$	$	$	ERJ3GEY0R00V
K7308	ERJ3GEY0R00V	$	$	ERJ3GEY0R00V	$	$	$	$	$	ERJ3GEY0R00V
K7801	ERJ3GEY0R00V	$	ERJ3GEY0R00V	$	$	$	$	$	$	ERJ3GEY0R00V
K7802	$	ERJ3GEY0R00V	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7803	ERJ3GEY0R00V	$	ERJ3GEY0R00V	$	ERJ3GEY0R00V	$	$	$	$	ERJ3GEY0R00V
K7804	ERJ3GEY0R00V	$	ERJ3GEY0R00V	ECJ1VC1H330J	ECJ1VC1H330J	ECJ1VC1H330J	ECJ1VC1H330J	ECJ1VC1H330J	ECJ1VC1H330J	ERJ3GEY0R00V
K7805	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5
K7806	$	$	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7807	$	$	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7808	$	$	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	$	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7809	$	$	$	ERJ3GEY0R00V	$	$	$	$	$	ERJ3GEY0R00V
K7810	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5	VWJ0795=7.5	$	VWJ0795=7.5
K7811	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	$	VWJ0795=12.5
K7812	VWJ0795=10	VWJ0795=10	VWJ0795=10	VWJ0795=10	VWJ0795=10	VWJ0795=10	VWJ0795=10	VWJ0795=10	$	VWJ0795=10
K7813	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	VWJ0795=12.5	$	VWJ0795=12.5
L7302	$	VWJ0795=5	$	$	VWJ0795=5	$	VWJ0795=5	$	$	VWJ0795=5
L7303	VWJ0795=5	G0C1R0JA0019	G0C1R0JA0019	VWJ0795=5	G0C1R0JA0019	$	G0C1R0JA0019	VWJ0795=5	$	G0C1R0JA0019
L7304	G0C470JA0019	G0C3R9JA0019	G0C3R9JA0019	G0C470JA0019	G0C3R9JA0019	$	G0C3R9JA0019	G0C470JA0019	$	G0C3R9JA0019
L7801	$	$	$	G0C100JA0019	$	$	$	$	$	G0C100JA0019
L7802	$	$	$	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR22JA0020
L7803	$	$	$	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR56JA0020	G1CR22JA0020
LB7301	$	J0JCC0000124	J0JCC0000124	$	J0JCC0000124	$	J0JCC0000124	$	$	J0JCC0000124
LB7302	$	J0JCC0000124	J0JCC0000124	$	J0JCC0000124	$	J0JCC0000124	$	$	J0JCC0000124
LB7303	$	J0JCC0000080	J0JCC0000080	$	J0JCC0000080	$	J0JCC0000080	$	$	J0JCC0000080
LB7304	J0JHC0000032	J0JHC0000032	J0JHC0000032	J0JHC0000032	J0JHC0000032	$	J0JHC0000032	J0JHC0000032	$	J0JHC0000032
LB7305	$	J0JCC0000080	J0JCC0000080	$	J0JCC0000080	$	J0JCC0000080	$	$	J0JCC0000080
LB7804	J0JCC0000103	J0JCC0000103	J0JCC0000103	J0JCC0000103	J0JCC0000103	$	J0JCC0000103	J0JCC0000103	$	J0JCC0000103
LB7805	$	$	$	J0JCC0000103	J0JCC0000103	J0JCC0000103	J0JCC0000103	J0JCC0000103	J0JCC0000103	K1KA05AA0180
PS7801	$	$	$	$	$	$	$	$	$	K1KA05AA0180
Q7802	$	$	$	2SD1819A0L	$	$	$	$	$	2SD1819A0L
Q7803	$	$	$	2SD1819A0L	$	$	$	$	$	2SD1819A0L
R7303	$	47K	47K	$	47K	$	47K	$	$	47K
R7304	$	100	100	$	100	$	100	$	$	100
R7305	100[F]	$	$	100[F]	$	$	$	100[F]	$	100[F]
R7306	3900[F]	$	$	3900[F]	$	$	$	3900[F]	$	3900[F]
R7307	4700	0	0	4700	0	$	0	4700	$	4700
R7308	7500	$	$	7500	$	$	$	7500	$	7500
R7311	$	220[F]	$	$	220[F]	$	220[F]	$	$	220[F]
R7312	6800[F]	220[F]	220[F]	6800[F]	220[F]	$	220[F]	6800[F]	$	220[F]
R7313	6800[F]	220[F]	220[F]	6800[F]	220[F]	$	220[F]	6800[F]	$	220[F]
R7318	3300[F]	$	$	3300[F]	$	$	$	3300[F]	$	3300[F]
R7320	3300[F]	$	$	3300[F]	$	$	$	3300[F]	$	3300[F]
R7321	5600	$	$	5600	$	$	$	5600	$	5600
R7322	$	0	0	$	0	$	0	$	$	0
R7323	5600	$	$	5600	$	$	$	5600	$	5600
R7324	220	220	220	220	220	$	220	220	$	220
R7325	220	220	220	220	220	$	220	220	$	220
R7326	1200	0	0	1200	0	$	0	1200	$	0
R7801	$	5600	$	$	5600	$	5600	$	$	5600
R7803	$	$	220	$	$	$	$	$	$	220
R7811	4700	4700	4700	4700	4700	4700	4700	4700	4700	4700
R7812	$	$	$	1.5M	$	$	$	$	$	1.5M
R7813	$	$	$	47K	$	$	$	$	$	47K
R7814	$	$	$	47K	$	$	$	$	$	47K
R7815	$	$	$	330K	$	$	$	$	$	330K
R7816	$	$	$	56K	$	$	$	$	$	56K
TU7801	$	ENGF7705KF	$	ENGF7704KF	ENGF7705KF	ENGF7703KF	ENGF7705KF	ENGF7704KF	ENGF7703KF	ENGF7703KF
TU7802	ENGF7601GF	$	ENGF7602GF	$	$	$	$	$	$	ENGF7601GF
X7301	H0H400400006	H0D245500016	H0D245500016	H0H400400006	H0D245500016	$	H0D245500016	H0H400400006	$	H0D245500016

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Tuner Section (Main P.C.B. (3/4))
Schematic Diagram (TU)

IC7301
DECODER
IC-DETAIL BLOCK DIAGRAM

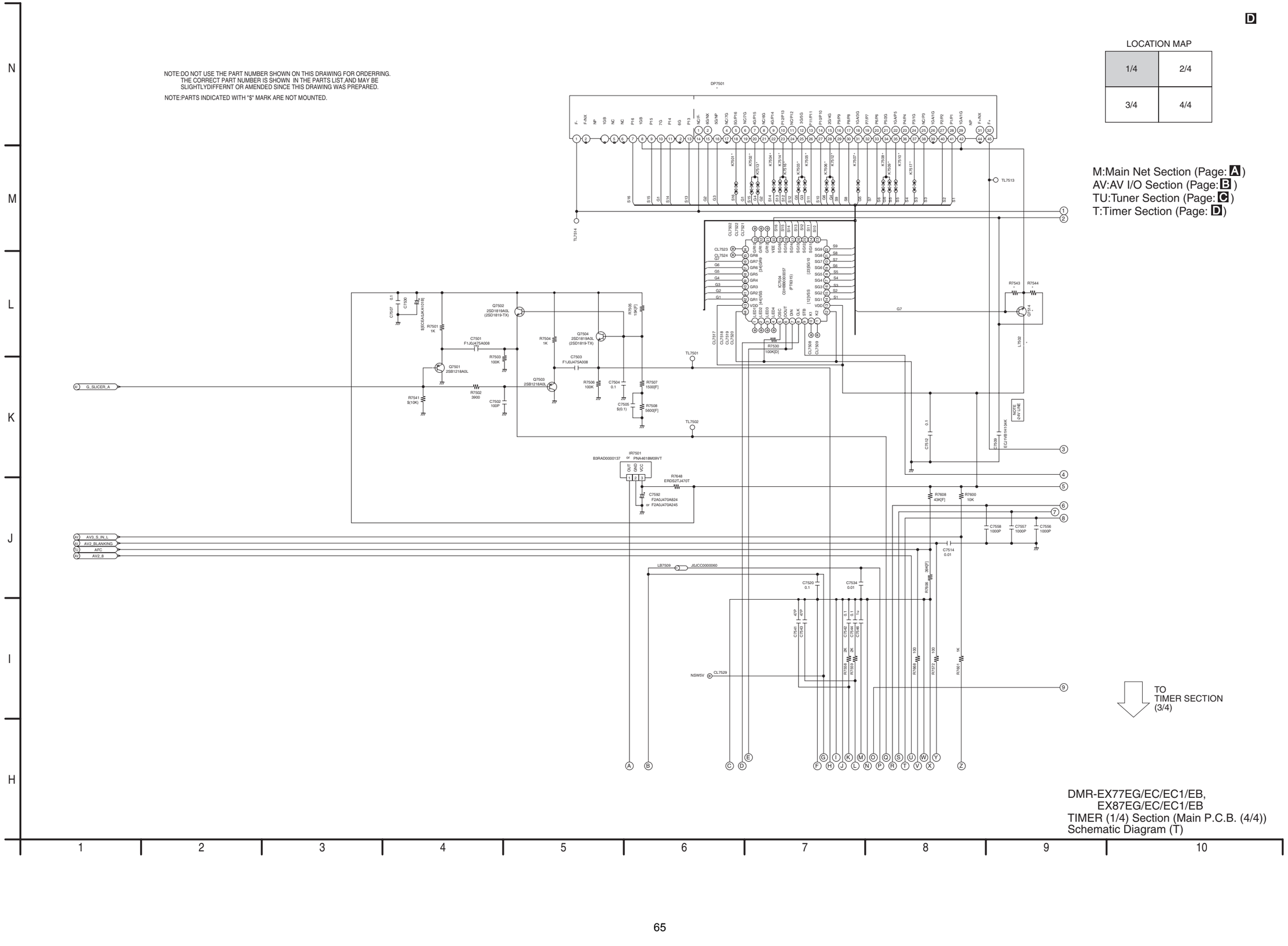


IC7302
RESET
IC-DETAIL BLOCK DIAGRAM



IC7301 Detail Block Diagram
IC7302 Detail Block Diagram
DMR-EX77EG/EC/EC1/EB,EX87EG/EC/EC1/EB IC-Detail Block Diagram

12.12. Timer (1/4) Section (Main P.C.B. (4/4)) Schematic Diagram (T)



12.13. Timer (2/4) Section (Main P.C.B. (4/4)) Schematic Diagram (T)

D

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,ONLY THE SAME TYPE.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

LOCATION MAP

1/4	2/4
3/4	4/4

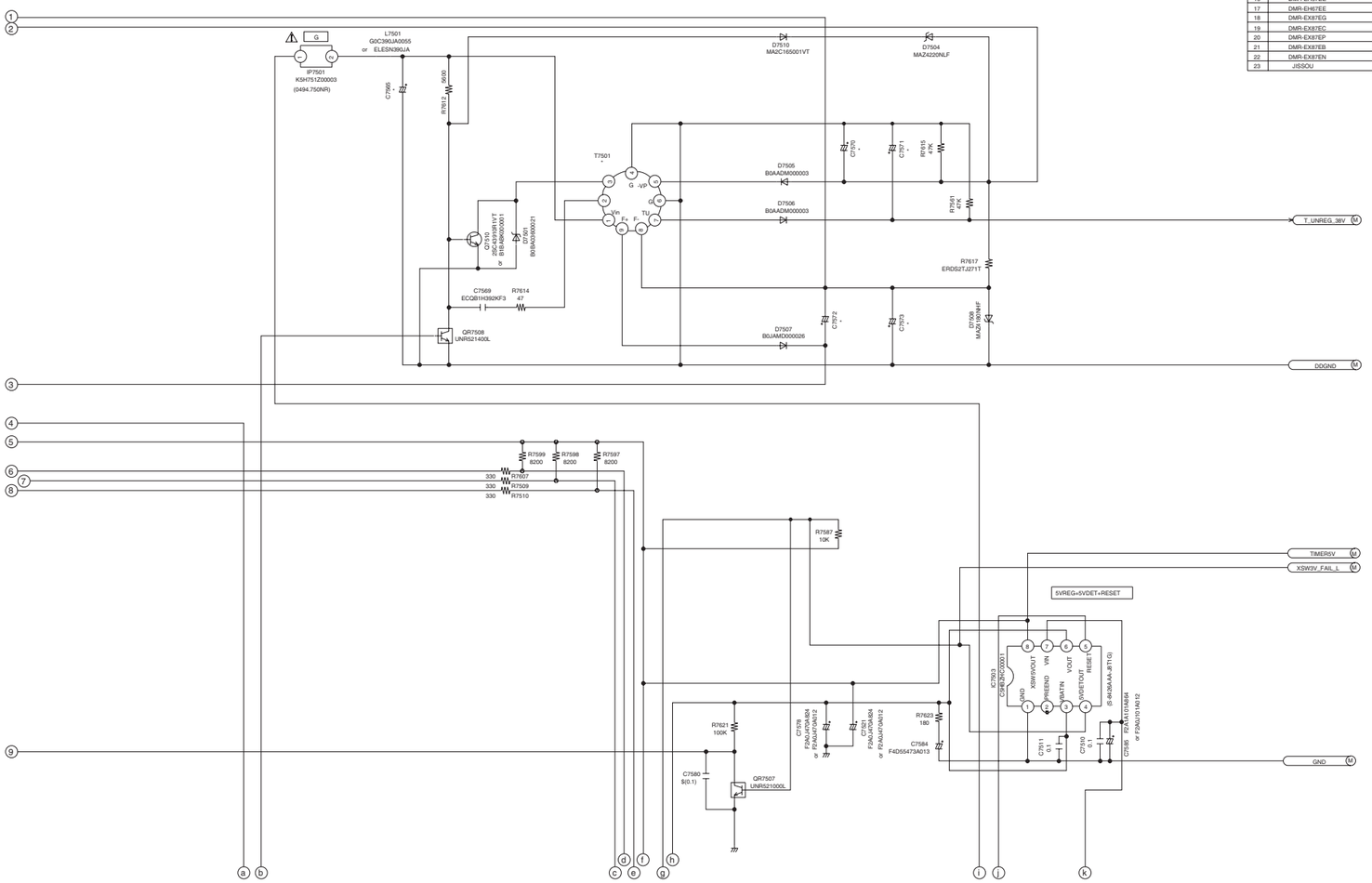
Variation Category1

	A	B	C	D	E	F	G	H/J	K/X	L/M	N	P	Q	R	S	T/U	V/Y	Z
R7512	0	0	0	0	0	0	0	$(0)	$(0)	$(0)	$(0)	$(0)	0	0	0	$(0)	$(0)	0
R7516	$	ERJ3GEY.J220V	$	$	ERJ3GEY.J220V	$	$	ERJ3GEY.J220V	ERJ3GEY.J220V	ERJ3GEY.J220V	ERJ3GEY.J220V	ERJ3GEY.J220V	$	$	$	ERJ3GEY.J220V	ERJ3GEY.J220V	ERJ3GEY.J220 V
R7518	0	0	0	0	0	0	0	$(0)	$(0)	$(0)	$(0)	$(0)	0	0	0	$(0)	$(0)	0
R7519	$(4700)	$(4700)	$(4700)	$(4700)	$(4700)	$(4700)	$(4700)	4700	4700	4700	4700	4700	$(4700)	$(4700)	$(4700)	4700	4700	4700
R7522	$(100)	$(100)	$(100)	$(100)	$(100)	$(100)	$(100)	100	100	100	100	100	$(100)	$(100)	$(100)	100	100	100
R7524	$(100)	$(100)	$(100)	$(100)	$(100)	$(100)	$(100)	100	100	100	100	100	$(100)	$(100)	$(100)	100	100	100
R7526	$(100)	$(100)	$(100)	$(100)	$(100)	$(100)	$(100)	100	100	100	100	100	$(100)	$(100)	$(100)	100	100	100
R7543	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K	10K
R7544	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K	47K
R7550	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	$(47K)	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V	ERJ3GEY.J223V
R7551	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	ERJ3GEYQR00V	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	$(ERJ3GEYQR00V)	ERJ3GEYQR00V
R7553	$(0)	$(0)	$(0)	$(0)	$(0)	$(0)	$(0)	$(0)	0	0	0	0	$(0)	$(0)	$(0)	0	0	0
T7501	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A00 00117	G4D1A0000118	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117	G4D1A0000117
ZB7501	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872	RMN0872
ZB7502	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A	RMN0873A

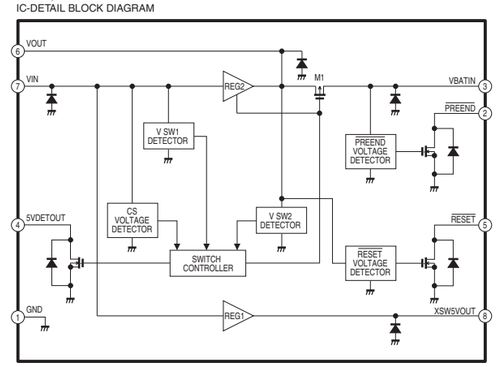
Modify Category

	Variation	Type
1	DMR-EH575EG	A
2	DMR-EH57EC	B
3	DMR-EH57EP	C
4	DMR-EH675GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH67GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN,EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH675EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JISSOU	Z

M:Main Net Section (Page: A)
AV:AV I/O Section (Page: B)
TU:Tuner Section (Page: C)
T:Timer Section (Page: D)

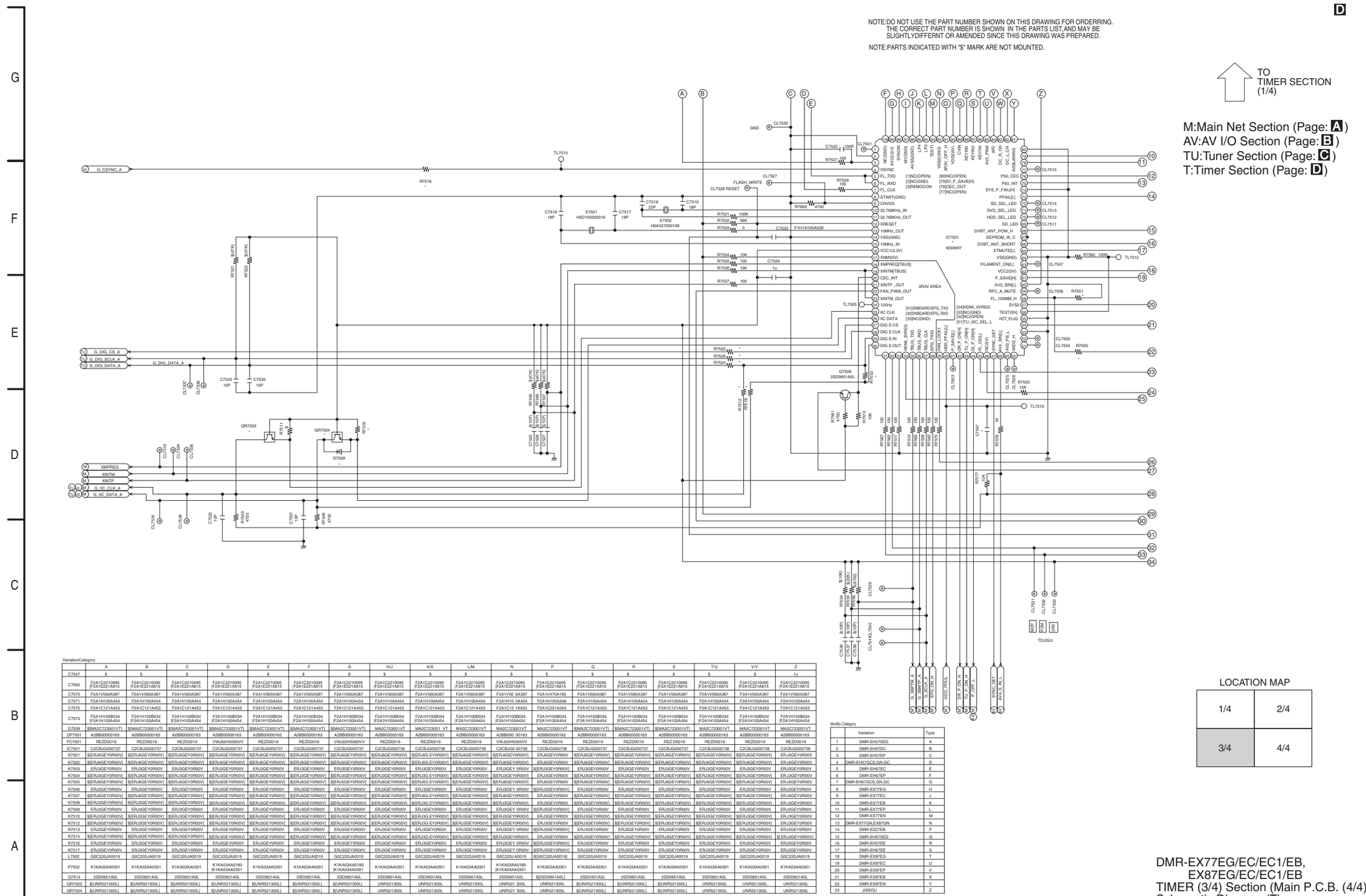


IC7503
RESET,REGULATORR IC
IC-DETAIL BLOCK DIAGRAM



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
TIMER (2/4) Section (Main P.C.B. (4/4))
Schematic Diagram (T)

12.14. Timer (3/4) Section (Main P.C.B. (4/4)) Schematic Diagram (T)



LOCATION MAP

1/4	2/4
3/4	4/4

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
TIMER (3/4) Section (Main P.C.B. (4/4))
Schematic Diagram (T)

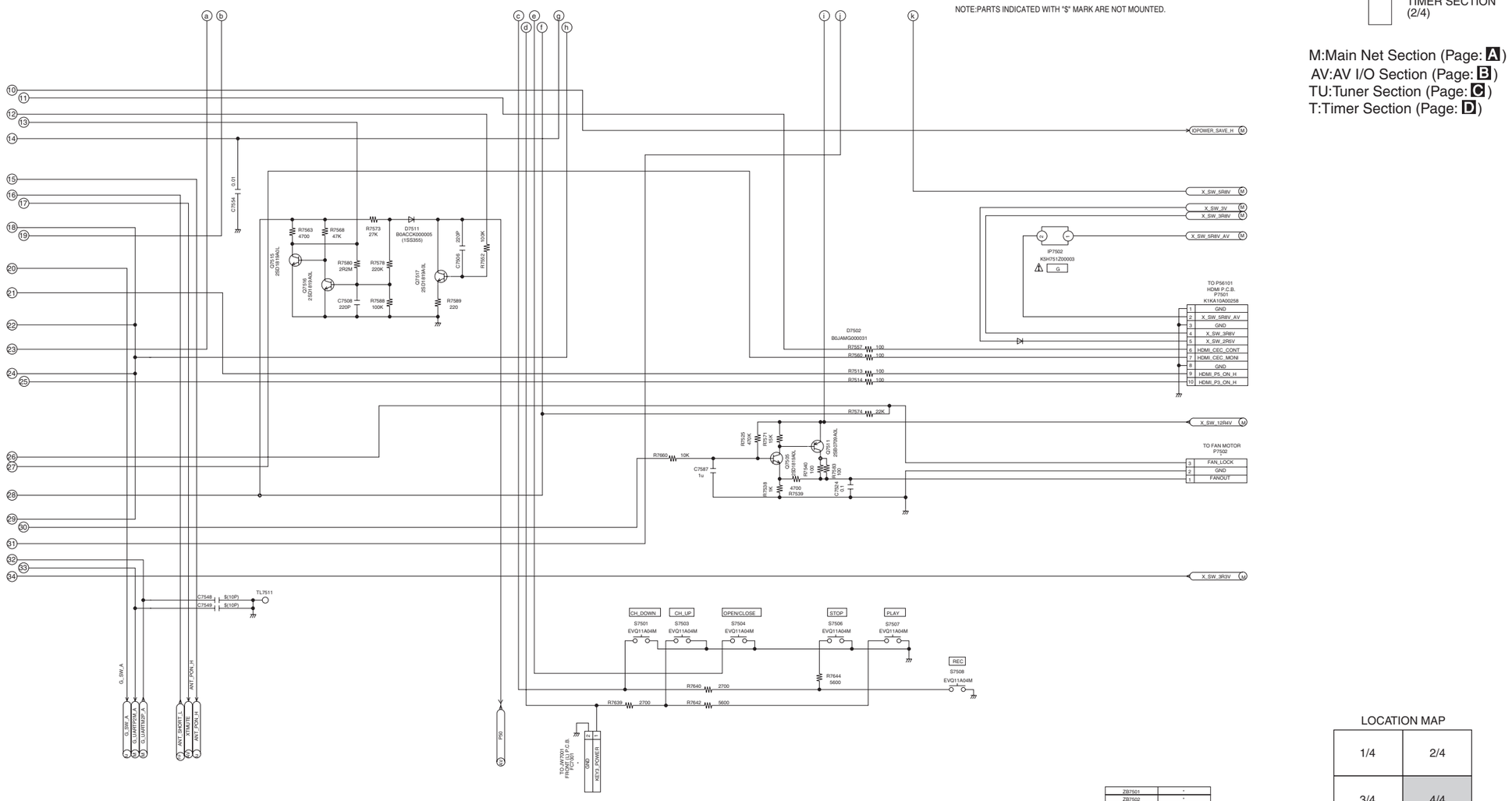
VariationCategory

	A	B	C	D	E	F	G	H/J	K/X	L/M	N	P	Q	R	S	T/U	V/Y	Z
C7547	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	1u
C7565	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815	F2A1C2210095 [F2A1E221A815
C7570	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V56 0A387	F2A1V470A190	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387	F2A1V560A387
C7571	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H10 0A454	F2A1H100A248	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454	F2A1H100A454
C7572	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C12 1A453	F2A1C221A243	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453	F2A1C121A453
C7573	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454	F2A1H100B034 [F2A1H100A454
D7509	$MA2C723001VT]	$MA2C723001VT]	$MA2C723001VT]	$MA2C723001VT]	$MA2C723001VT]	$MA2C723001VT]	$MA2C723001VT]	MA2C723001VT]	MA2C723001 VT	MA2C723001VT	MA2C723001VT	MA2C723001VT	$MA2C723001VT]	$MA2C723001VT]	$MA2C723001VT]	MA2C723001VT	MA2C723001VT	MA2C723001VT
DP7501	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB000 0163	A2BB0000162	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163	A2BB0000163
FC7001	REZD0019	REZD0019	REZD0019	VWJ02H5065VV	REZD0019	REZD0019	VWJ02H5065VV	REZD0019	REZD0019	REZD0019	VWJ02H5065VV	REZD0019	REZD0019	REZD0019	REZD0019	REZ D0019	REZD0019	REZD0019
IC7501	C2CBJG000737	C2CBJG000737	C2CBJG000737	C2CBJG000737	C2CBJG000737	C2CBJG000737	C2CBJG000737	C2CBJG000738	C2CBJG000738	C2CBJG000738	C2CBJG000738	C2CBJG000738	C2CBJG000738	C2CBJG000737	C2CBJG000737	C2CBJG000738	C2CBJG000738	C2CBJG000738
K7501	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	ERJ6GEY0R00V
K7502	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	ERJ6GEY0R00V	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	ERJ6GEY0R00V
K7503	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY 0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7504	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K7505	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K7506	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY 0R00V	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7507	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	ERJ6GEY0R00V	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	$[ERJ6GEY0R00V]	ERJ6GEY0R00V
K7508	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K7509	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY 0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7510	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K7512	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	ERJ3GEY0R00V
K7513	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY 0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7514	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]	$[ERJ3GEY0R00V]
K7516	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY 0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
K7517	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY 0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V	ERJ3GEY0R00V
L7502	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0018	G0C220JA0018	G0C220JA0019	G0C220JA0019	G0C220JA0019	$[G0C220JA0019]	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0019	G0C220JA0019
P7502	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0180 [K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0180 [K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0180 [K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301	K1KA03AA0301
Q7514	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	$[2SD0601A0L]	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L	2SD0601A0L
QR7503	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	UNRS21300L	UNRS21300L	UNRS21300L	UNRS21300L	UNRS21 300L	UNRS21300L	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	UNRS21300L	UNRS21300L
QR7504	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	UNRS21300L	UNRS21300L	UNRS21300L	UNRS21300L	UNRS21 300L	UNRS21300L	$[UNRS21300L]	$[UNRS21300L]	$[UNRS21300L]	UNRS21300L	UNRS21300L

Modify Category

	Variation	Type
1	DMR-EH575EG	A
2	DMR-EH575EC	B
3	DMR-EH575EP	C
4	DMR-EH573GCS,GN,GC	D
5	DMR-EH67EC	E
6	DMR-EH67EP	F
7	DMR-EH67GCS,GN,GC	G
8	DMR-EX77EG	H
9	DMR-EX77EC	J
10	DMR-EX77EB	K
11	DMR-EX77EP	L
12	DMR-EX77EN	M
13	DMR-EX77GN,EX87GN	N
14	DMR-EZ27EB	P
15	DMR-EH675EG	Q
16	DMR-EH57EE	R
17	DMR-EH67EE	S
18	DMR-EX87EG	T
19	DMR-EX87EC	U
20	DMR-EX87EP	V
21	DMR-EX87EB	X
22	DMR-EX87EN	Y
23	JSSOJ	Z

12.15. Timer (4/4) Section (Main P.C.B. (4/4)) Schematic Diagram (T)



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
TIMER (4/4) Section (Main P.C.B. (4/4))
Schematic Diagram (T)

11 12 13 14 15 16 17 18 19 20

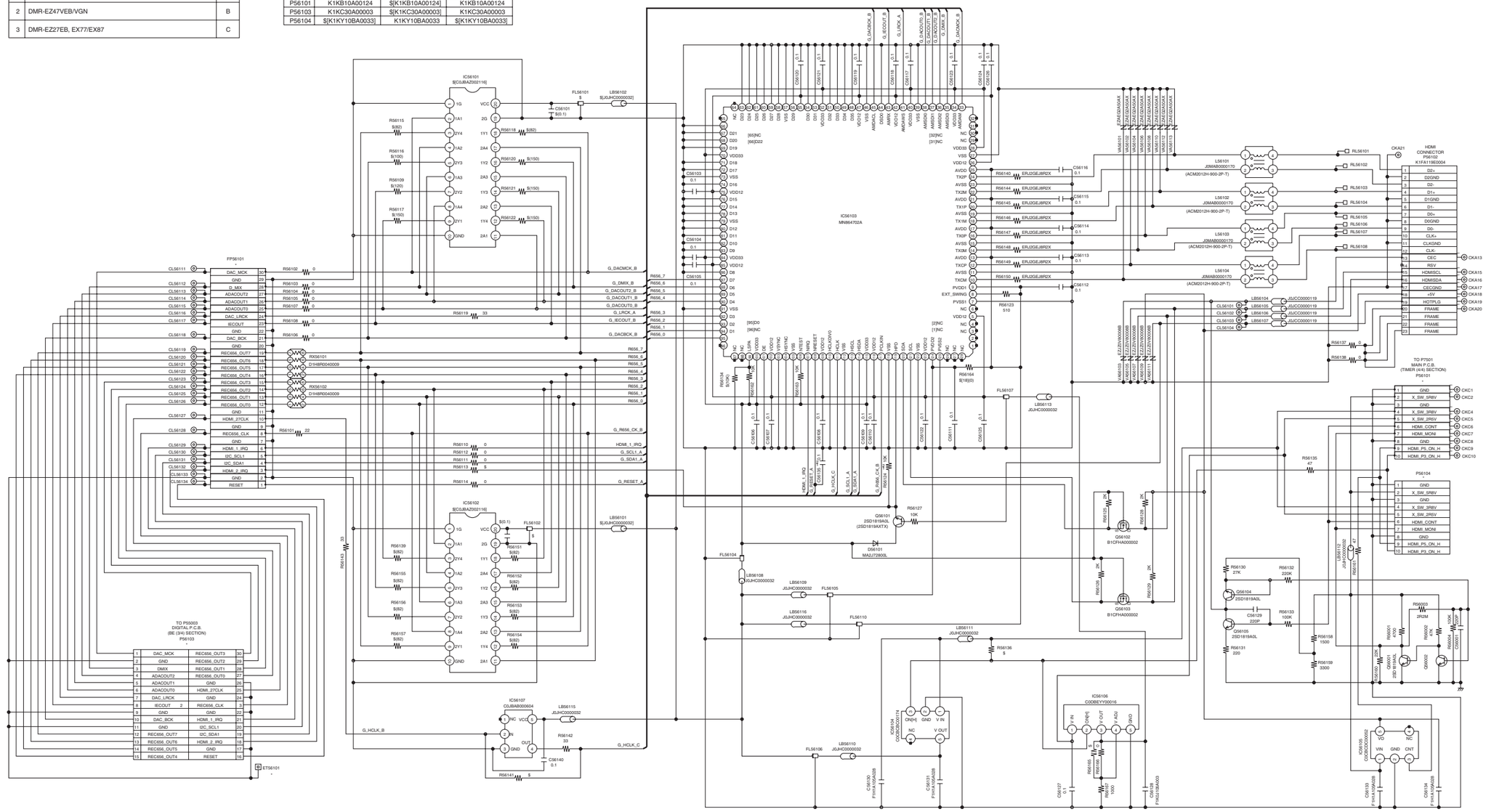
12.16. HDMI Schematic Diagram

Modify Category

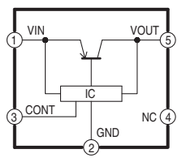
	Variation	Type
1	DMR-EH57, EH575, EH67, EH675	A
2	DMR-EZ47VEB/VGN	B
3	DMR-EZ27EB, EX77/EX87	C

Variation Category

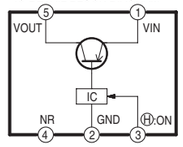
	A	B	C
ET56101	$[K4CD01000010]	$[K4CD01000010]	K4CD01000010
FP56101	$[K1MN30AA0082]	K1MN30AA0082	$[K1MN30AA0082]
P56101	K1KB10A00124	$[K1KB10A00124]	K1KB10A00124
P56103	K1KC30A00003	$[K1KC30A00003]	K1KC30A00003
P56104	$[K1KY10BA0033]	K1KY10BA0033	$[K1KY10BA0033]



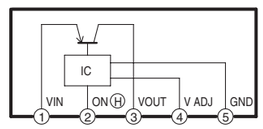
IC56104
+3.3V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



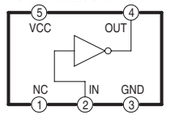
IC56105
+5V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



IC56106
+1.2V SWITCHING REGULATOR
IC-DETAIL BLOCK DIAGRAM



IC56107
INVERTER
IC-DETAIL BLOCK DIAGRAM

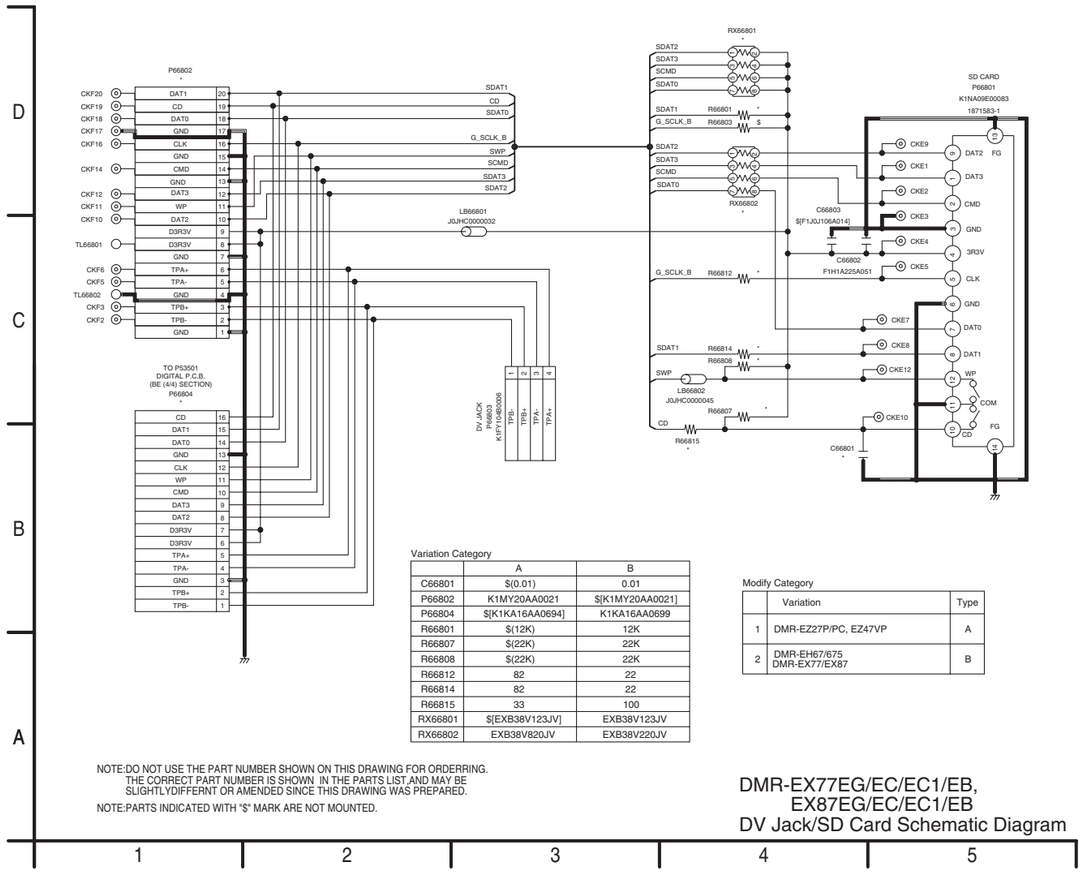


NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
HDMI Schematic Diagram

12.17. DV Jack/SD Card Schematic Diagram



Variation Category

	A	B
C66801	$(0.01)	0.01
P66802	K1MY20AA0021	$[K1MY20AA0021]
P66804	$[K1KA16AA0694]	K1KA16AA0699
R66801	$(12K)	12K
R66807	$(22K)	22K
R66808	$(22K)	22K
R66812	82	22
R66814	82	22
R66815	33	100
RX66801	$[EXB38V123JV]	EXB38V123JV
RX66802	EXB38V820JV	EXB38V220JV

Modify Category

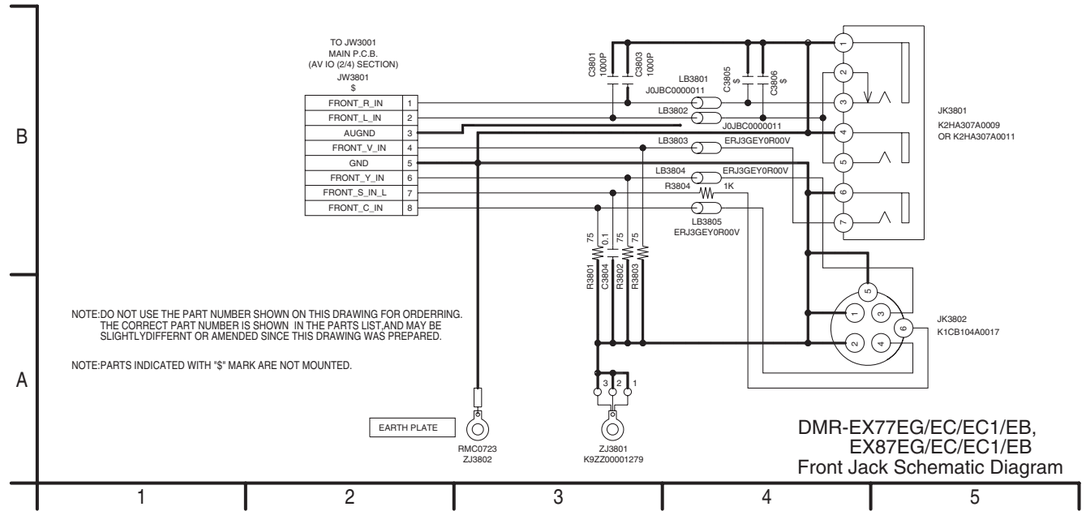
	Variation	Type
1	DMR-EZ27P/PC, EZ47VP	A
2	DMR-EH67/675 DMR-EX77/EX87	B

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
DV Jack/SD Card Schematic Diagram

12.18. Front Jack Schematic Diagram

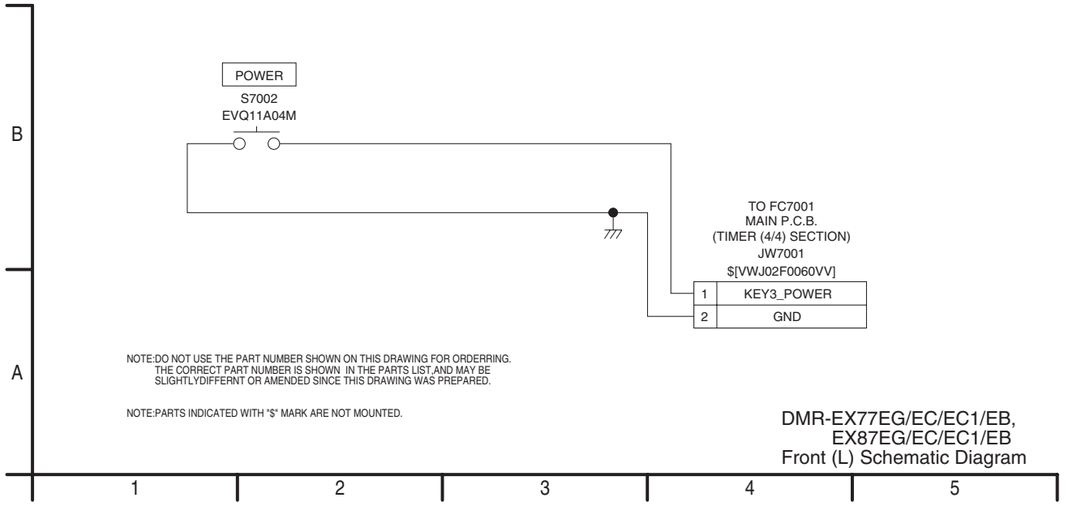


NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Front Jack Schematic Diagram

12.19. Front (L) Schematic Diagram

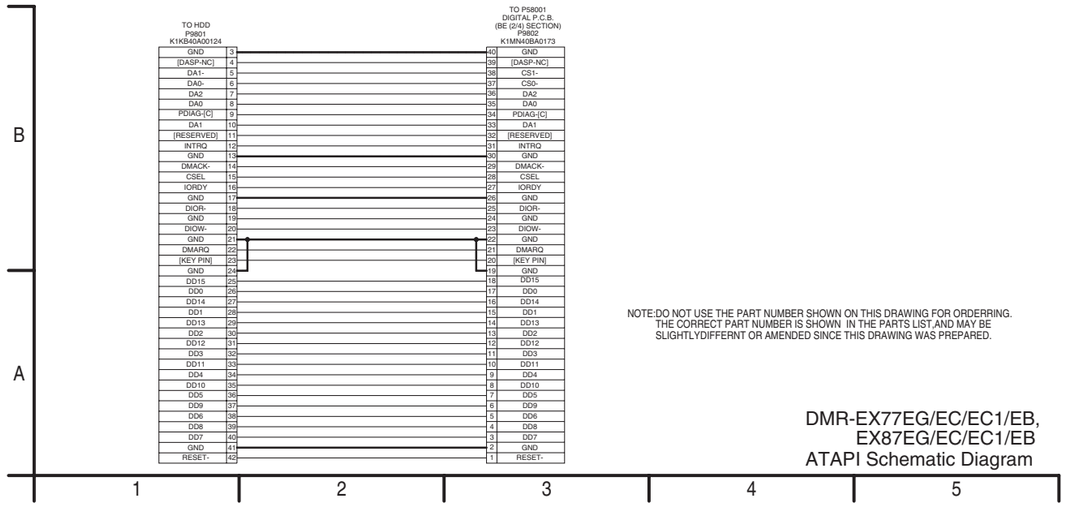


NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE:PARTS INDICATED WITH "$" MARK ARE NOT MOUNTED.

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Front (L) Schematic Diagram

12.20. ATAPI Schematic Diagram


TO HDD
PS801
K1KB40A00124
TO PS8001
DIGITAL P.C.B.
(BE (2/4) SECTION)
PS802
K1MN40BA0173
GND 3 | 10 GND
[DASP-NC] 4 | 39 [DASP-NC]
DA1- 5 | 38 CS1-
DA0- 6 | 37 CS0-
DA2 7 | 36 DA2
DA0 8 | 35 DA0
PDIAG-[C] 9 | 34 PDIAG-[C]
DA1 10 | 33 DA1
[RESERVED] 11 | 32 [RESERVED]
INTRQ 12 | 31 INTRQ
GND 13 | 30 GND
DMACK- 14 | 29 DMACK-
CSEL 15 | 28 CSEL
IORDY 16 | 27 IORDY
GND 17 | 26 GND
DIOR- 18 | 25 DIOR-
GND 19 | 24 GND
DIOW- 20 | 23 DIOW-
GND 21 | 22 GND
DMARQ 22 | 21 DMARQ
[KEY PIN] 23 | 20 [KEY PIN]
GND 24 | 19 GND
DD15 25 | 18 DD15
DD0 26 | 17 DD0
DD14 27 | 16 DD14
DD1 28 | 15 DD1
DD13 29 | 14 DD13
DD2 30 | 13 DD2
DD12 31 | 12 DD12
DD3 32 | 11 DD3
DD11 33 | 10 DD11
DD4 34 | 9 DD4
DD10 35 | 8 DD10
DD5 36 | 7 DD5
DD9 37 | 6 DD9
DD6 38 | 5 DD6
DD8 39 | 4 DD8
DD7 40 | 3 DD7
GND 41 | 2 GND
RESET- 42 | 1 RESET-
B
A
1
2
3
4
5

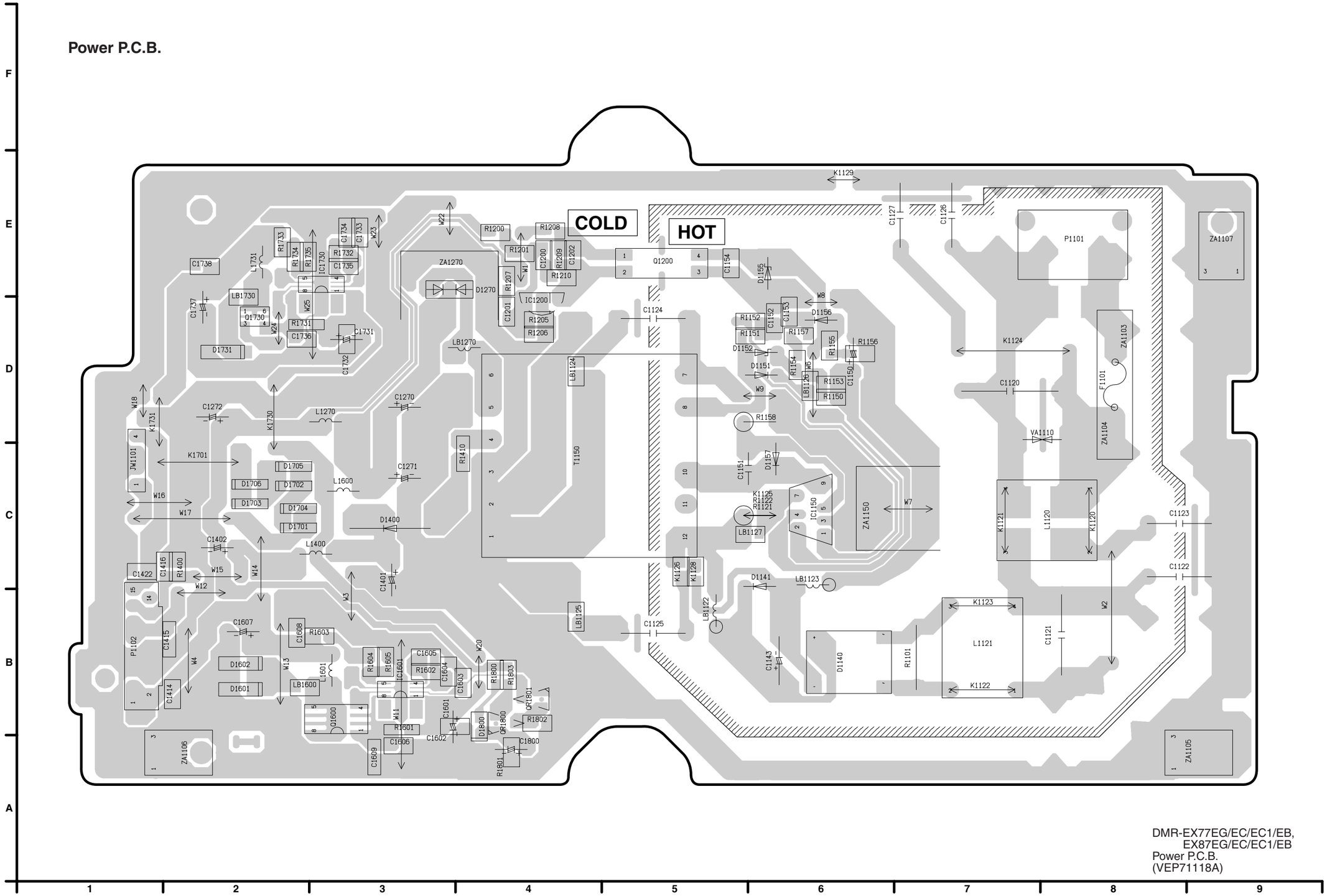
NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST,AND MAY BE
SLIGHTLYDIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
ATAPI Schematic Diagram

13 Printed Circuit Board

13.1. Power P.C.B.

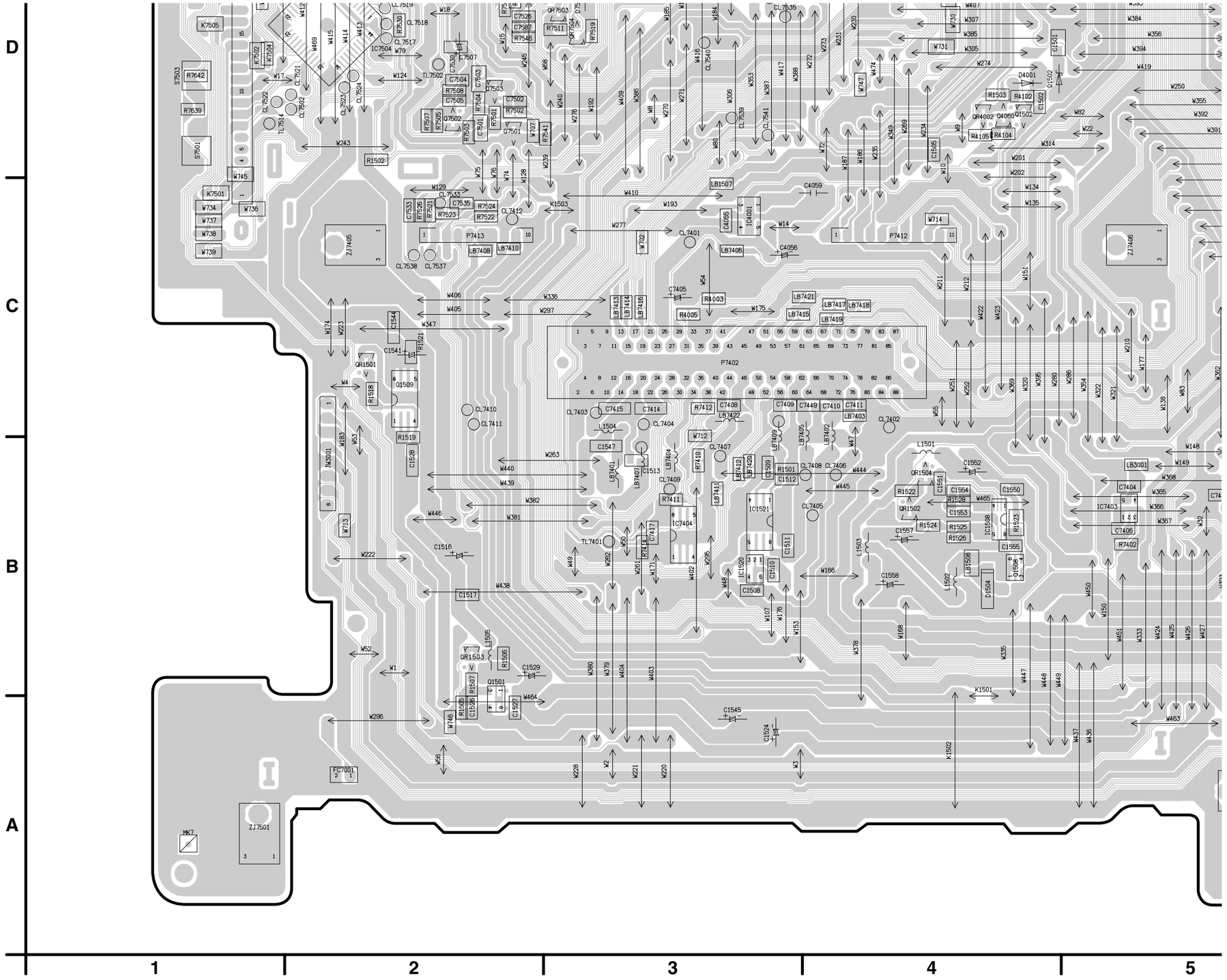
Power P.C.B.



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Power P.C.B.
(VEP71118A)

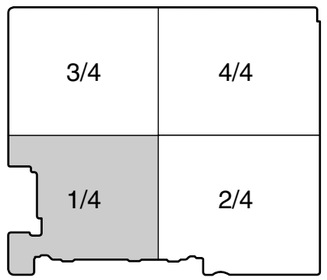
13.2. Main P.C.B.

13.2.1. Main P.C.B. (1/4 Section)



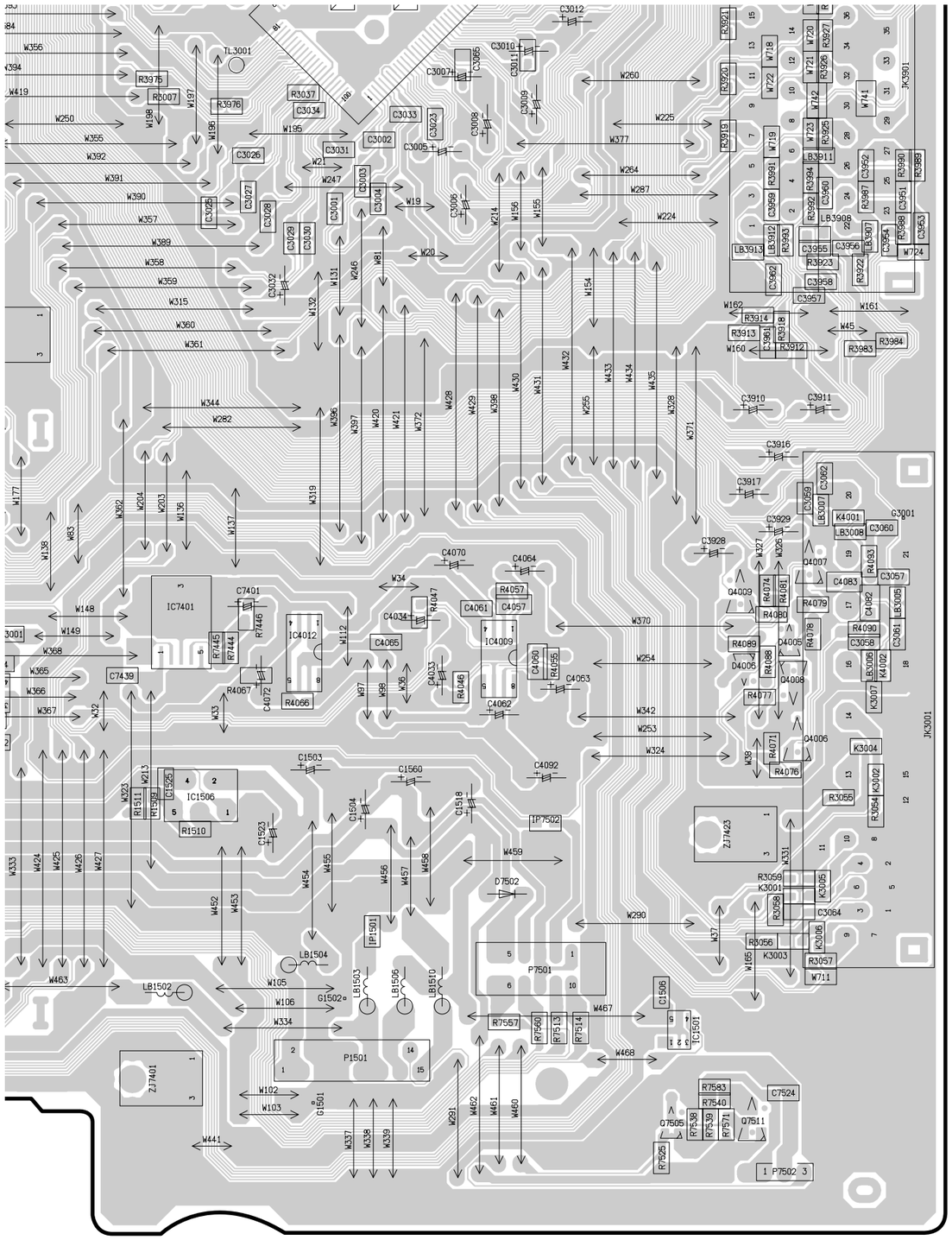
Location Map

(FRONT) (REAR)



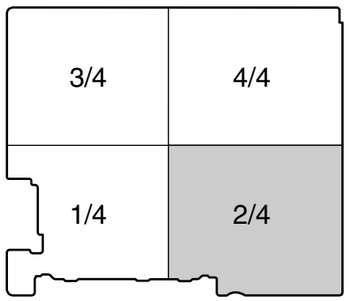
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main P.C.B.
(RFKB79156HT:EX77EG,RFKB79156JT:EX77EC/EC1,
RFKB79156K:EX77EB,
RFKB79156TT:EX87EG,RFKB79156UT:EX87EC/EC1,
RFKB79156X:EX87EB)
(1/4 Section)

13.2.2. Main P.C.B. (2/4 Section)



Location Map

(FRONT) (REAR)

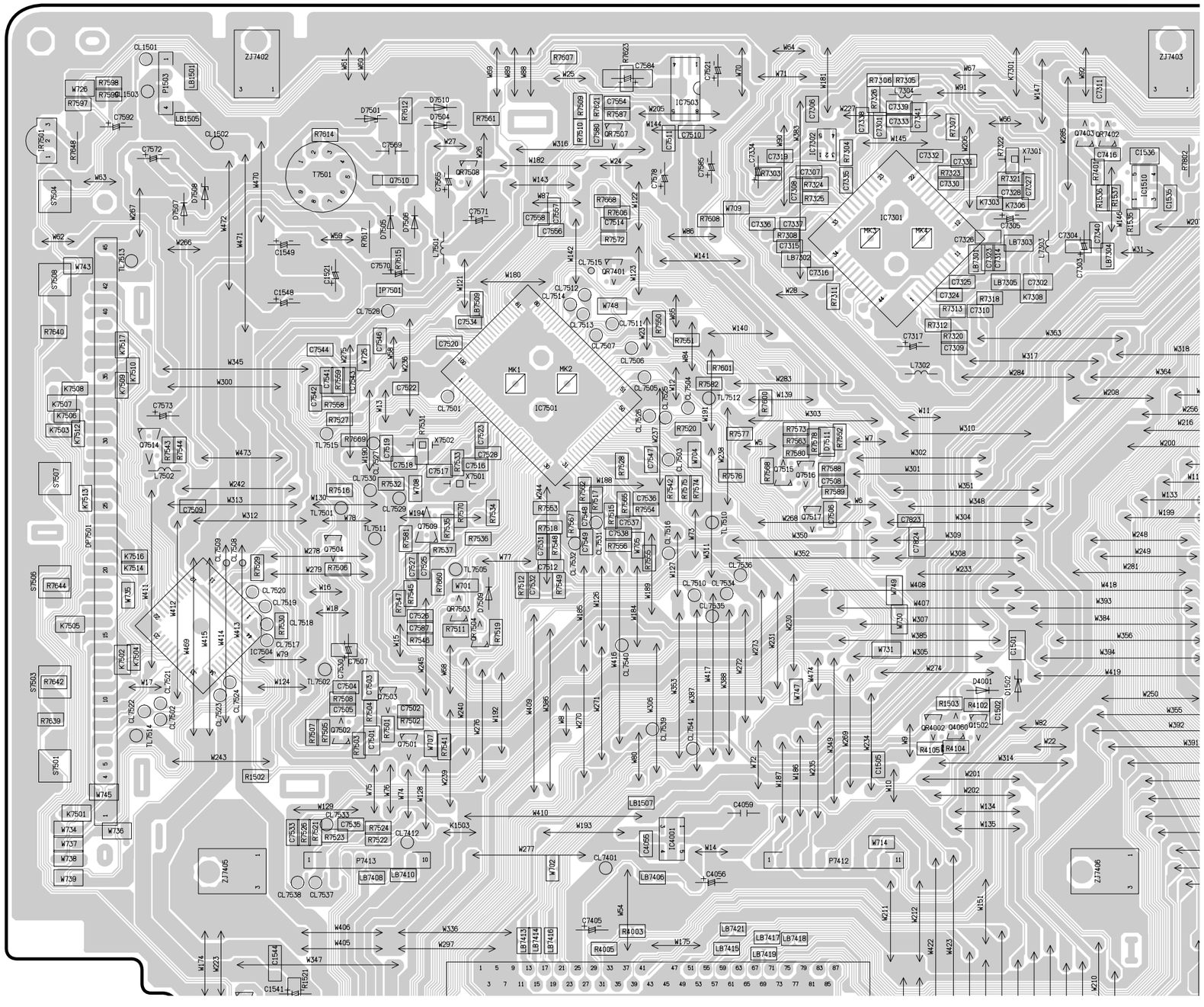


DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main P.C.B.
(RFKB79156HT:EX77EG,RFKB79156JT:EX77EC/EC1,
RFKB79156K:EX77EB,
RFKB79156TT:EX87EG,RFKB79156UT:EX87EC/EC1,
RFKB79156X:EX87EB)
(2/4 Section)

5 6 7 8 9

13.2.3. Main P.C.B. (3/4 Section)

Main P.C.B.



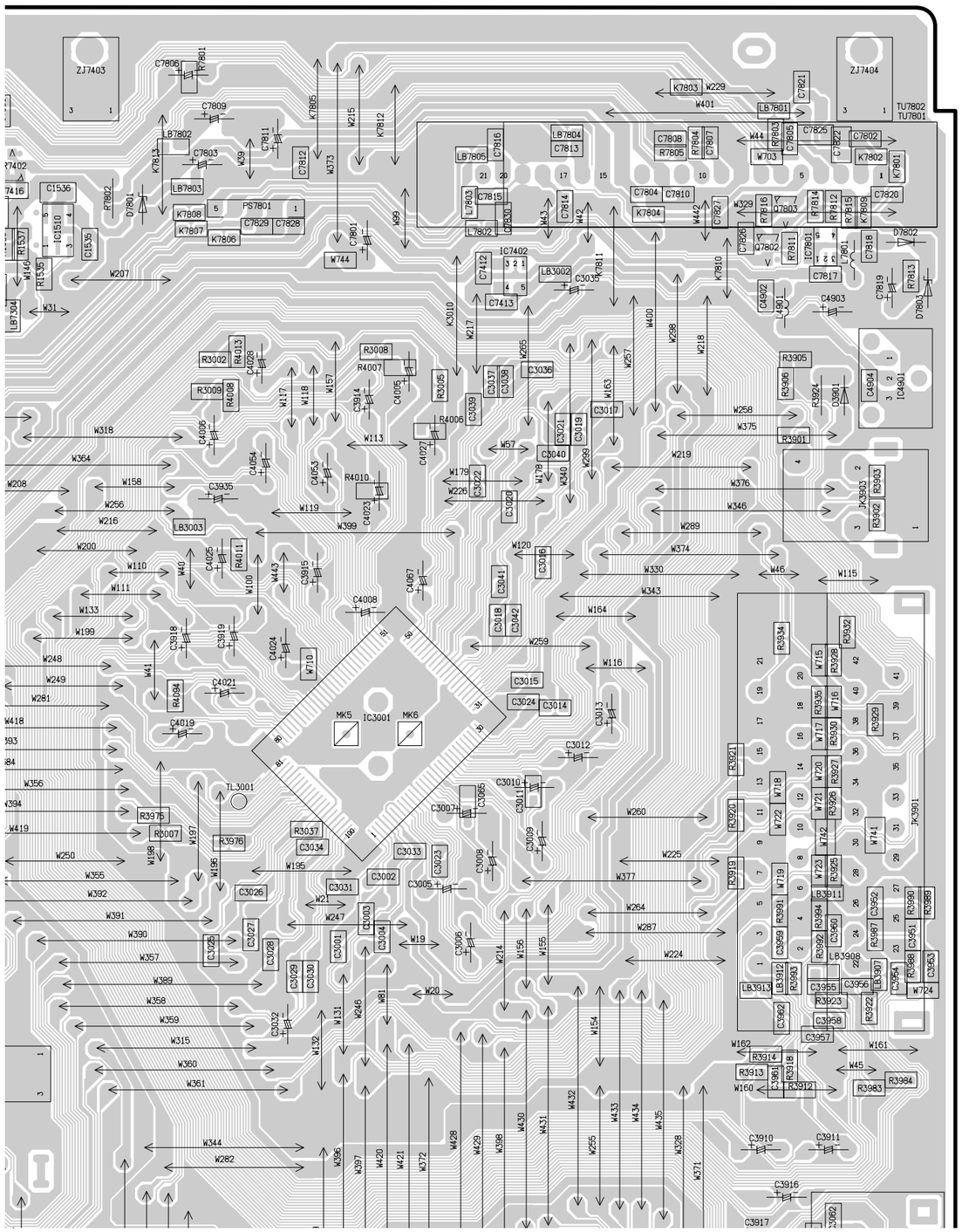
Location Map

(FRONT) (REAR)

3/4	4/4
1/4	2/4

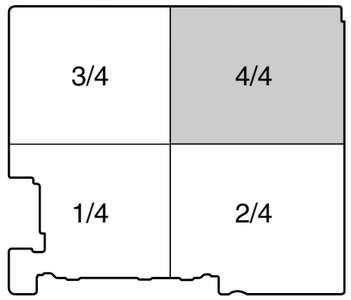
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main P.C.B.
(RFKB79156HT:EX77EG,RFKB79156JT:EX77EC/EC1,
RFKB79156K:EX77EB,
RFKB79156TT:EX87EG,RFKB79156UT:EX87EC/EC1,
RFKB79156X:EX87EB)
(3/4 Section)

13.2.4. Main P.C.B. (4/4 Section)



Location Map

(FRONT) (REAR)



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Main P.C.B.
(RFKB79156HT:EX77EG,RFKB79156JT:EX77EC/EC1,
RFKB79156K:EX77EB,
RFKB79156TT:EX87EG,RFKB79156UT:EX87EC/EC1,
RFKB79156X:EX87EB)
(4/4 Section)

13.2.5. Main P.C.B. Address Information

Main P.C.B.

Integrated Circuit	
IC1501	A-7
IC1506	B-5
IC1508	B-4
IC1510	E-5
IC1520	B-3
IC1521	B-3
IC3001	D-6
IC4001	C-3
IC4009	B-6
IC4012	B-6
IC4901	E-7
IC7301	E-4
IC7302	F-4
IC7401	B-5
IC7402	E-6
IC7403	B-5
IC7404	B-3
IC7501	E-3
IC7503	F-3
IC7504	D-2
IC7801	E-7
Transistor	
Q1501	A-2
Q1502	D-4
Q1508	B-4
Q1509	C-2
Q4006	B-7
Q4007	C-7
Q4008	B-7
Q4009	B-7
Q4060	D-4
Q7403	F-5
Q7501	D-2
Q7502	D-2
Q7503	D-2
Q7504	D-2
Q7505	A-7
Q7509	D-2
Q7510	E-2
Q7511	A-7
Q7514	E-2
Q7515	D-4
Q7516	D-4
Q7517	D-4
Q7802	E-7
Q7803	E-7
Transistor-resistor	
QR1501	C-2
QR1502	B-4
QR1503	B-2
QR1504	B-4
QR4002	D-4
QR7401	E-3
QR7402	F-5
QR7503	D-3
QR7504	D-3
QR7507	F-3
QR7508	E-3
Test Point	
CL1501	F-2
CL1502	F-2
CL1503	F-2
CL7401	C-3
CL7402	B-4
CL7403	C-3
CL7404	B-3
CL7405	B-4
CL7406	B-4
CL7407	B-3
CL7408	B-3
CL7409	B-3
CL7410	C-2
CL7411	B-2
CL7412	C-2
CL7501	E-3
CL7502	D-2
CL7503	E-3
CL7504	E-3
CL7505	E-3
CL7506	E-3
CL7507	E-3
CL7508	D-2
CL7509	D-2
CL7510	D-3
CL7511	E-3
CL7512	E-3
CL7513	E-3
CL7514	E-3
CL7515	E-3
CL7516	D-3
CL7517	D-2
CL7518	D-2
CL7519	D-2
CL7520	D-2
CL7521	D-2
CL7522	D-2
CL7523	D-2
CL7524	D-2
CL7525	E-3
CL7526	E-3
CL7527	E-2
CL7528	E-2
CL7529	D-2
CL7530	D-2
CL7531	D-3
CL7532	D-3
CL7533	C-2
CL7534	D-3
CL7535	D-3
CL7536	D-4
CL7537	C-2
CL7538	C-2
CL7539	D-3
CL7540	D-3
CL7541	D-3
TL3001	D-5
TL7401	B-3
TL7501	D-2
TL7502	D-2
TL7503	D-3
TL7510	D-3
TL7511	D-2
TL7512	E-3
TL7513	E-1
TL7514	D-1
TL7515	E-2
Connector	
JK3001	B-7
JK3901	D-7
JK3903	E-7
P1501	A-6
P1503	F-2
P7402	C-3
P7412	C-4
P7413	C-2
P7501	A-6
P7502	A-7
PS7801	E-5
Diode	
D1502	D-4
D1504	B-4
D3901	E-7
D4001	D-4
D4005	B-7
D4006	B-7
D7501	F-2
D7502	B-6
D7504	F-2
D7505	E-2
D7506	E-2
D7507	E-2
D7508	E-2
D7509	D-3
D7510	F-2
D7511	E-4
D7801	E-5
D7802	E-7
D7803	E-7
Crystal Osillator	
X7301	F-4
X7501	D-3
X7502	E-2
IC Protector	
IP1501	B-6
IP7501	E-2
IP7502	B-6
Coil	
L1501	B-4
L1502	B-4
L1503	B-4
L1504	B-3
L1505	B-2
L4901	E-7
L7302	E-4
L7303	E-5
L7304	F-4
L7501	E-3
L7502	D-2
L7801	E-7
L7802	E-6
L7803	E-6
LB1501	F-2
LB1502	A-5
LB1503	A-6
LB1504	A-6
LB1505	F-2
LB1506	A-6
LB1507	C-3
LB1508	B-4
LB1510	A-6
LB3001	B-5
LB3002	E-6
LB3003	E-5
LB3005	B-7
LB3006	B-7
LB3007	C-7
LB3008	C-7
LB3907	C-7
LB3908	C-7
LB3911	D-7
LB3912	C-7
LB3913	C-7
LB7301	E-4
LB7302	E-4
LB7303	E-4
LB7304	E-5
LB7305	E-4
LB7401	B-3
LB7402	B-4
LB7403	B-4
LB7404	B-3
LB7405	B-3
LB7406	C-3
LB7407	B-3
LB7408	C-2
LB7409	B-3
LB7410	C-2
LB7411	B-3
LB7412	B-3
LB7413	C-3
LB7414	C-3
LB7415	C-3
LB7416	C-3
LB7417	C-4
LB7418	C-4
LB7419	C-4
LB7420	B-3
LB7421	C-3
LB7422	B-3
LB7509	E-3
LB7801	F-7
LB7802	F-5
LB7803	F-5
LB7804	F-6
LB7805	F-6
Capacitor	
C1501	D-4
C1502	D-4
C1503	B-6
C1504	B-6
C1505	C-4
C1506	A-7
C1508	B-3
C1509	B-3
C1510	B-3
C1511	B-3
C1512	B-3
C1513	B-3
C1516	B-2
C1517	B-2
C1518	B-6
C1521	E-2
C1523	B-5
C1524	A-3
C1525	B-5
C1526	A-2
C1527	A-2
C1528	B-2
C1529	B-2
C1535	E-5
C1536	F-5
C1541	C-2
C1544	C-2
C1545	A-3
C1547	B-3
C1548	E-2
C1549	E-2
C1550	B-4
C1551	B-4
C1552	B-4
C1553	B-4
C1554	B-4
C1555	B-4
C1557	B-4
C1558	B-4
C1560	B-6
C3001	C-6
C3002	D-6
C3003	D-6
C3004	D-6
C3005	D-6
C3006	C-6
C3007	D-6
C3008	D-6
C3009	D-6
C3010	D-6
C3011	D-6
C3012	D-6
C3013	D-6
C3014	D-6
C3015	D-6
C3016	E-6
C3017	E-6
C3018	D-6
C3019	E-6
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C3021	E-6
C3022	E-6
C3023	D-6
C3024	D-6
C3025	C-5
C3026	D-5
C3027	D-5
C3028	C-5
C3029	C-5
C3030	C-6
C3031	D-6
C3032	C-5
C3033	D-6
C3034	D-6
C3035	E-6
C3036	E-6
C3037	E-6
C3038	E-6
C3039	E-6
C3040	E-6
C3041	D-6
C3042	D-6
C3057	B-7
C3058	B-7
C3059	C-7
C3060	C-7
C3061	B-7
C3062	C-7
C3064	B-7
C3065	D-6
C3910	C-7
C3911	C-7
C3914	E-6
C3915	D-6
C3916	C-7
C3917	C-7
C3918	D-5
C3919	D-5
C3928	C-7
C3929	C-7
C3935	E-5
C3951	D-7
C3952	D-7
C3953	C-7
C3954	C-7
C3955	C-7
C3956	C-7
C3957	C-7
C3958	C-7
C3959	C-7
C3960	D-7
C3961	C-7
C3962	C-7
C4005	E-6
C4006	E-5
C4008	D-6
C4019	D-5
C4021	D-5
C4023	E-6
C4024	D-5
C4025	E-5
C4027	E-6
C4028	E-5
C4033	B-6
C4034	B-6
C4053	E-6
C4054	E-5
C4055	C-3
C4056	C-3
C4057	B-6
C4059	C-4
C4060	B-6
C4061	B-6
C4062	B-6
C4063	B-6
C4064	B-6
C4065	B-6
C4067	D-6
C4070	C-6
C4072	B-5
C4082	B-7
C4083	B-7
C4092	B-6
C4902	E-7
C4903	E-7
C4904	E-7
C7301	F-4
C7302	E-4
C7303	E-5
C7304	E-5
C7305	E-4
C7306	F-4
C7307	E-4
C7308	E-4
C7309	E-4
C7310	E-4
C7311	F-5
C7314	E-4
C7315	E-4
C7316	E-4
C7317	E-4
C7319	F-4
C7323	E-4
C7324	E-4
C7325	E-4
C7326	E-4
C7327	E-4
C7328	E-4
C7330	E-4
C7331	E-4
C7332	F-4
C7333	F-4
C7334	E-4
C7335	E-4
C7336	E-4
C7337	E-4
C7338	F-4
C7339	F-4
C7340	E-5
C7341	F-4
C7401	B-5
C7404	B-5
C7405	C-3
C7406	B-5
C7408	C-3
C7409	C-3
C7410	C-4
C7411	C-4
C7412	E-6
C7413	E-6
C7414	C-3
C7415	C-3
C7416	F-5
C7417	B-3
C7439	B-5
C7449	C-3
C7501	D-2
C7502	D-2
C7503	D-2
C7504	D-2
C7505	D-2
C7506	D-4
C7507	D-2
C7508	D-4
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C7511	F-3
C7513	E-4
C7514	E-3
C7515	E-5
C7517	D-3
C7518	D-2
C7519	E-2
C7520	E-3
C7521	F-3
C7522	E-2
C7523	E-3
C7524	A-7
C7525	D-2
C7526	D-2
C7527	D-2
C7528	E-3
C7530	D-2
C7531	D-3
C7532	D-3
C7533	C-2
C7534	E-3
C7535	C-2
C7536	D-3
C7537	D-3
C7538	D-3
C7541	E-2
C7542	E-2
C7543	E-2
C7544	E-2
C7546	E-2
C7547	E-3
C7548	D-3
C7549	D-3
C7554	F-3
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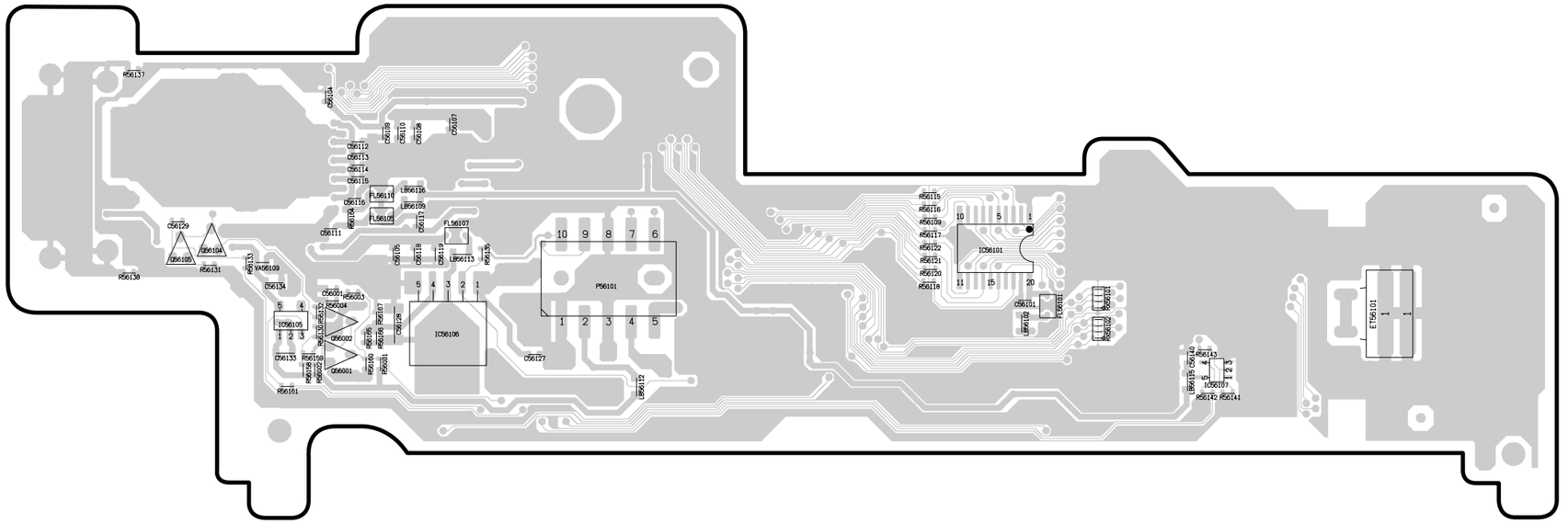
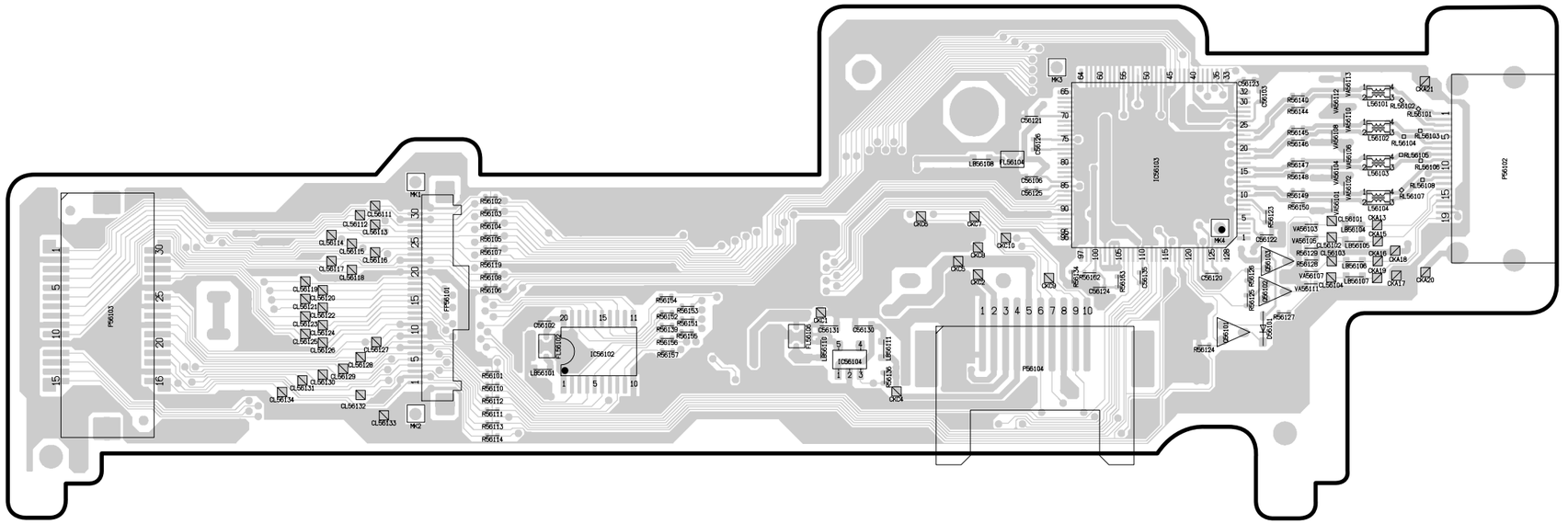
C7557	E-3
C7558	E-3
C7565	E-3
C7569	F-2
C7570	E-2
C7571	E-3
C7572	F-2
C7573	E-2
C7578	E-3
C7580	F-3
C7584	F-3
C7585	E-3
C7587	D-2
C7592	F-1
C7801	E-6
C7802	F-7
C7803	F-5
C7804	F-6
C7805	F-7
C7806	F-5
C7807	F-7
C7808	F-7
C7809	F-5
C7810	F-7
C7811	F-5
C7812	F-6
C7813	F-6
C7814	E-6
C7815	F-6
C7816	F-6
C7817	E-7
C7818	E-7
C7819	E-7
C7820	F-7
C7821	F-7
C7822	F-7
C7823	D-4
C7824	D-4
C7825	F-7
C7826	E-7
C7827	E-7
C7828	E-5
C7829	E-5
C7830	E-6
Resistor	
R1501	B-3
R1502	C-2
R1503	D-4
R1505	A-2
R1506	B-2
R1507	A-2
R1509	B-5
R1510	B-5
R1511	B-5
R1518	C-2
R1519	B-2
R1521	C-2
R1522	B-4
R1523	B-4
R1524	B-4
R1525	B-4
R1526	B-4
R1528	B-4
R1535	E-5
R1536	E-5
R1537	E-5
R3002	E-5
R3005	E-6
R3007	D-5
R3008	E-6
R3009	E-5
R3037	D-6
R3054	B-7
R3055	B-7
R3056	A-7
R3057	A-7
R3058	B-7
R3059	B-7
R3901	E-7
R3902	E-7
R3903	E-7
R3905	E-7
R3906	E-7
R3912	C-7
R3913	C-7
R3914	C-7
R3918	C-7
R3919	D-7
R3920	D-7
R3921	D-7
R3922	C-7
R3923	C-7
R3924	E-7
R3925	D-7
R3926	D-7
R3927	D-7
R3928	D-7
R3929	D-7
R3930	D-7
R3932	D-7
R3934	D-7
R3935	D-7
R3975	D-5
R3976	D-5
R3983	C-7
R3984	C-7
R3987	D-7
R3988	C-7
R3989	D-7
R3990	D-7
R3991	D-7
R3992	C-7
R3993	C-7
R3994	D-7
R4003	C-3
R4005	C-3
R4006	E-6
R4007	E-6
R4008	E-5
R4010	E-6
R4011	E-5
R4013	E-5
R4046	B-6
R4047	B-6
R4055	B-6
R4057	B-6
R4066	B-6
R4067	B-5
R4071	B-7
R4074	B-7
R4076	B-7
R4077	B-7
R4078	B-7
R4079	B-7
R4080	B-7
R4081	B-7
R4088	B-7
R4089	B-7
R4090	B-7
R4093	C-7
R4094	D-5
R4102	D-4
R4104	D-4
R4105	D-4
R4401	D-4
R4444	B-5
R4445	B-5
R4446	B-5
R7501	D-2
R7502	D-2
R7503	D-2
R7504	D-2
R7505	D-2
R7506	D-2
R7507	D-2
R7508	D-2
R7509	F-3
R7510	F-3
R7511	D-3
R7512	D-3
R7513	A-6
R7514	A-6
R7515	D-3
R7516	D-2
R7517	D-3
R7518	D-3
R7519	D-3
R7520	E-3
R7521	C-2
R7522	C-2
R7523	C-2
R7524	C-2
R7525	E-4
R7526	E-4
R7527	E-4
R7528	E-4
R7529	D-2
R7530	D-2
R7531	E-2
R7532	D-2
R7533	D-3
R7534	D-3
R7535	D-3
R7536	D-3
R7537	D-3
R7538	A-7
R7539	A-7
R7541	D-3
R7542	D-3
R7543	E-2
R7544	E-2
R7545	D-2
R7546	D-2
R7547	D-2
R7548	D-3
R7549	D-3
R7550	E-3
R7551	E-3
R7552	E-4
R7553	D-3
R7554	D-3
R7555	D-3
R7556	D-3
R7557	A-6
R7558	E-2
R7559	E-2
R7560	A-6
R7561	F-3
R7562	D-3
R7563	E-4
R7565	D-3
R7567	D-3
R7568	D-4
R7570	D-3
R7571	A-7
R7572	E-3
R7573	E-4
R7574	D-3
R7575	D-3
R7576	D-3
R7577	E-4
R7578	E-4
R7580	E-4
R7581	D-2
R7582	E-3
R7583	A-7
R7587	F-3
R7588	D-4
R7589	D-4
R7597	F-1
R7598	F-1
R7599	F-1
R7600	E-4
R7601	E-3
R7606	E-3
R7607	F-3
R7608	E-3
R7612	F-2
R7614	F-2
R7615	E-2
R7617	E-2
R7621	F-3
R7623	F-3
R7639	D-1
R7640	E-1
R7642	D-1
R7644	D-1
R7648	F-1
R7660	D-2
R7668	E-3
R7669	E-2
R7801	F-5
R7802	E-5
R7803	F-7
R7804	F-7
R7805	F-7
R7811	E-7
R7812	E-7
R7813	E-7
R7814	E-7
R7815	E-7
R7816	E-7
Switch	
S7501	C-1
S7503	D-1
S7504	E-1
S7506	D-1
S7507	D-1
S7508	E-1
Transformer	
T7501	E-2
Display	
DP7501	D-1

13.3. HDMI P.C.B.

HDMI P.C.B.



(COMPONENT SIDE)

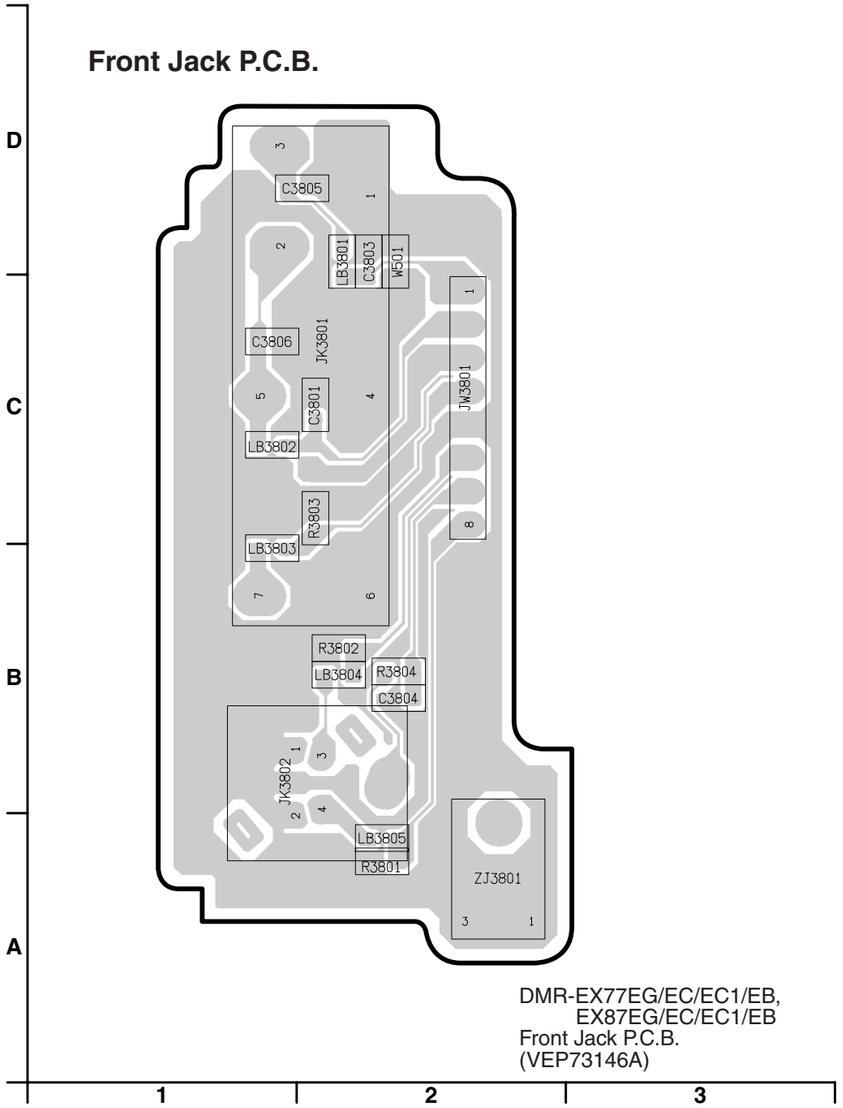


(FOIL SIDE)

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
HDMI P.C.B.
(VEP73148A)

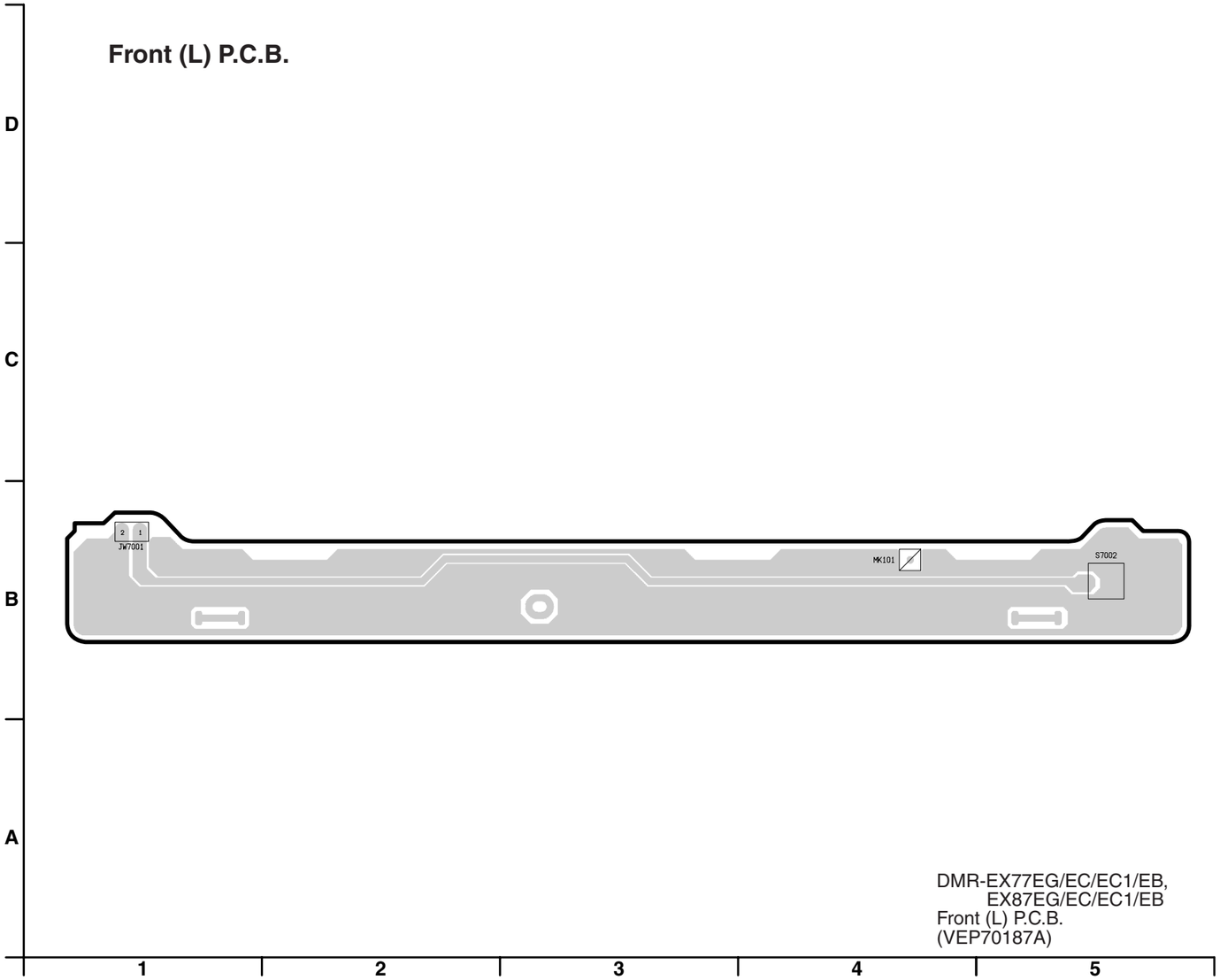
13.4. Front Jack P.C.B. and Front (L) P.C.B.

Front Jack P.C.B.



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Front Jack P.C.B.
(VEP73146A)

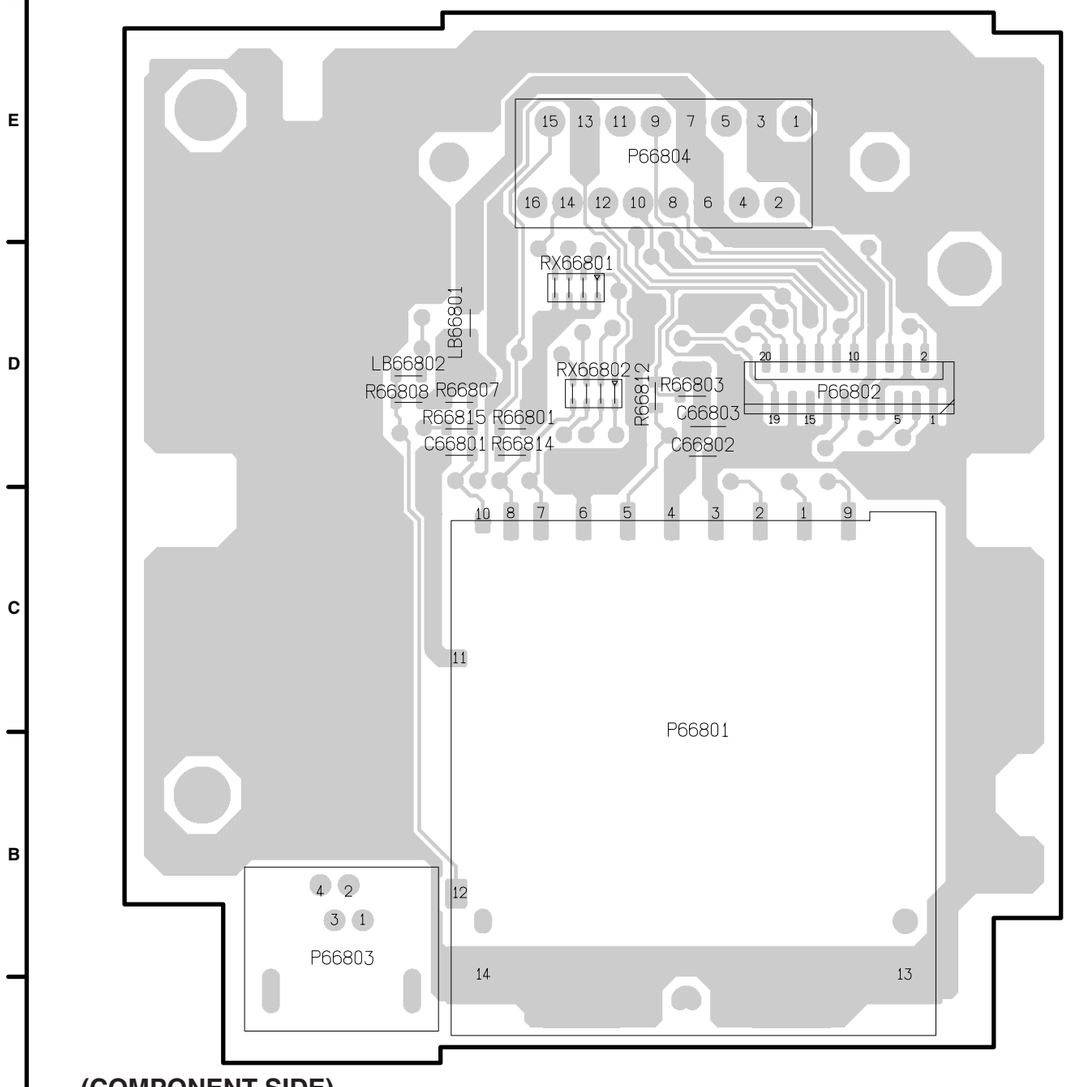
Front (L) P.C.B.



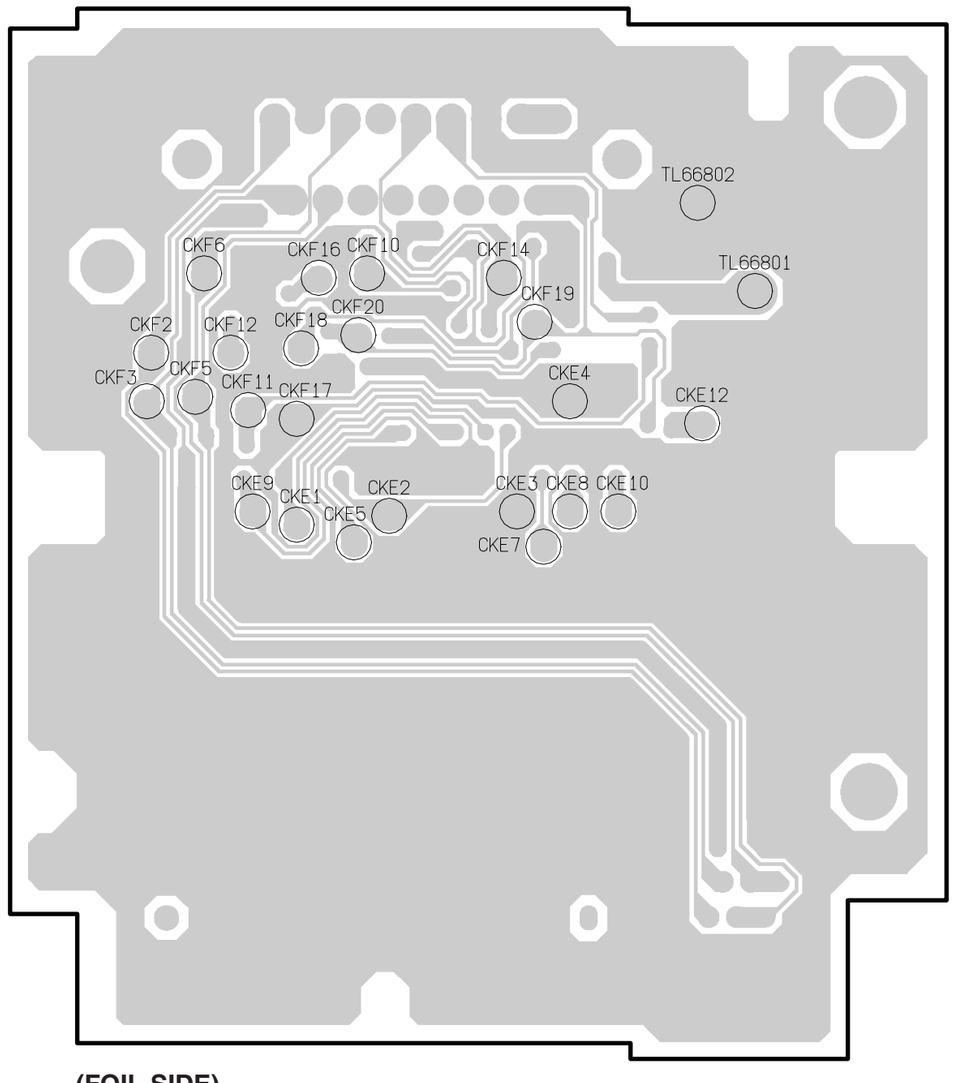
DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
Front (L) P.C.B.
(VEP70187A)

13.5. DV Jack and SD Card P.C.B.

DV Jack/SD Card P.C.B.



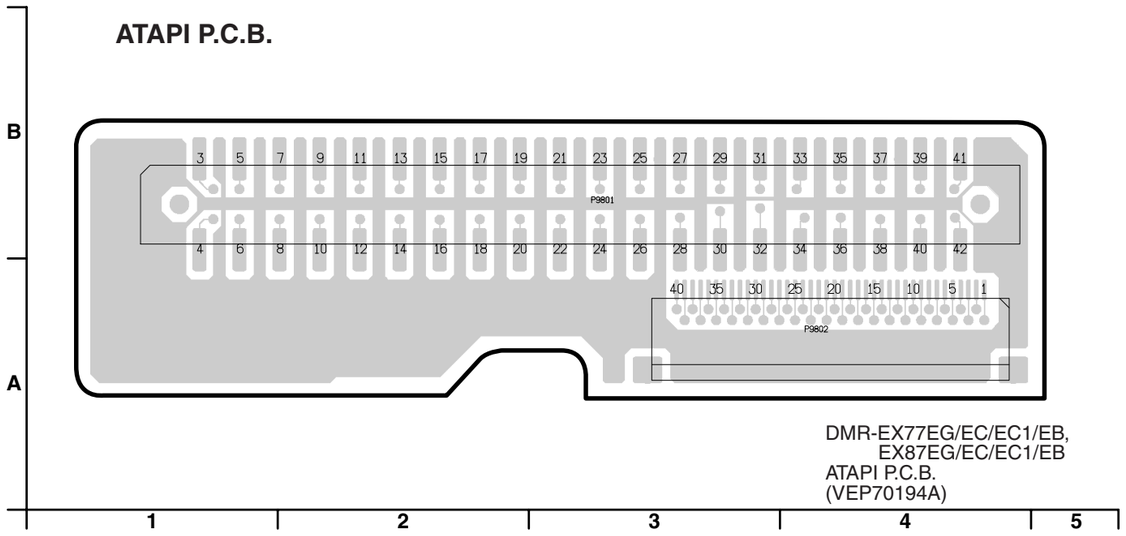
(COMPONENT SIDE)



(FOIL SIDE)

DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
DV Jack/SD Card P.C.B.
(VEP73150A)

13.6. ATAPI P.C.B.



DMR-EX77EG/EC/EC1/EB,
EX87EG/EC/EC1/EB
ATAPI P.C.B.
(VEP70194A)

14 Appendix for Schematic Diagram

14.1. Voltage and Waveform Chart

Note)

Circuit voltage and waveform described herein shall be regarded as reference information when probing defect point, because it may differ from an actual measuring value due to difference of Measuring instrument and its measuring condition and product itself.

14.1.1. Power P.C.B.

Ref No.	IC1150										IC1200									
MODE	1	2	3	4	5	6	7	8	9		1	2	3							
REC	3.0	1.5	0	11.6	0	-	-	-	-		8.3	2.5	0							
PLAY	3.0	1.5	0	11.6	0	-	-	-	-		8.3	2.5	0							
STOP	3.0	1.5	0	11.6	0	-	-	-	-		8.3	2.5	0							
Ref No.	IC1601																			
MODE	1	2	3	4	5	6	7	8												
REC	12.3	4.5	1.2	1.3	0.8	0	7.2	12.3												
PLAY	12.3	4.5	1.2	1.3	0.8	0	7.2	12.3												
STOP	12.3	4.5	1.2	1.3	0.8	0	7.2	12.3												
Ref No.	Q1200					Q1600														
MODE	1	2	3	4		1	2	3	4	5	6	7	8							
REC	9.3	8.3	0	1.5		12.3	12.3	12.3	7.2	6.1	6.1	6.1	6.1							
PLAY	9.3	8.3	0	1.5		12.3	12.3	12.3	7.2	6.1	6.1	6.1	6.1							
STOP	9.3	8.3	0	1.5		12.3	12.3	12.3	7.2	6.1	6.1	6.1	6.1							
Ref No.	QR1800				QR1801															
MODE	E	C	B		E	C	B													
REC	11.9	0	12.3		0	4.5	0													
PLAY	11.9	0	12.3		0	4.5	0													
STOP	11.9	0	12.3		0	4.5	0													

14.1.2. Main P.C.B.

Ref No.	IC1501						IC1506													
MODE	1	2	3	4	5		1	2	3	4	5									
REC	-	0	0	3.0	3.2		4.8	6.1	0	5.2	5.2									
PLAY	-	0	0	3.0	3.2		4.8	6.1	0	5.2	5.2									
STOP	-	0	0	3.0	3.2		4.8	6.1	0	5.2	5.2									
Ref No.	IC1508									IC1510						IC1520				
MODE	1	2	3	4	5	6	7	8		1	2	3	4	5		1	2	3	4	5
REC	12.2	4.5	1.2	1.3	0.9	0	9.0	12.2		5.0	0	4.8	6.1	5.0		6.1	0	4.8	-	5.1
PLAY	12.2	4.5	1.2	1.3	0.9	0	9.0	12.2		5.0	0	4.8	6.1	5.0		6.1	0	4.8	-	5.1
STOP	12.2	4.5	1.2	1.3	0.9	0	9.0	12.2		5.0	0	4.8	6.1	5.0		6.1	0	4.8	-	5.1
Ref No.	IC1521																			
MODE	1	2	3	4	5	6	7	8												
REC	3.3	-	2.0	0	4.8	-	-	4.1												
PLAY	3.3	-	2.0	0	4.8	-	-	4.1												
STOP	3.3	-	2.0	0	4.8	-	-	4.1												
Ref No.	IC3001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	2.0	2.5	1.6	0	1.6	5.0	1.6	5.0	0.4	0.3	1.6	0.4	0	1.7	1.7	1.6	0.4	0	1.7	1.7
PLAY	2.0	2.5	1.6	0	1.6	5.0	1.6	5.0	0.4	0.3	1.6	0.4	0	1.7	1.7	1.6	0.4	0	1.7	1.7
STOP	2.0	2.5	1.6	0	1.6	5.0	1.6	5.0	0.4	1.6	1.6	0.4	0	1.7	1.7	1.6	0.4	0	1.7	1.7
Ref No.	IC3001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	0	1.7	1.7	1.7	5.0	1.4	0.1	1.4	0	2.1	1.6	0	1.6	0	2.1	0	1.6	0	1.6	5.0
PLAY	0	1.7	1.7	1.7	5.0	1.4	0.1	1.4	0	2.1	1.6	0	1.6	0	2.1	0	1.6	0	1.6	5.0
STOP	0	1.7	1.6	1.7	5.0	1.4	0.2	1.4	0	2.1	1.6	0	1.6	0	2.1	0	1.6	0	1.6	5.0
Ref No.	IC3001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	1.6	5.1	2.0	0	2.0	11.6	1.6	2.0	4.5	4.4	4.4	4.0	4.5	4.5	4.5	4.5	9.1	4.4	4.4	4.5
PLAY	1.6	5.1	2.0	0	2.0	11.6	1.6	2.0	4.5	4.4	4.4	4.0	4.5	4.5	4.5	4.5	9.1	4.4	4.4	4.5
STOP	1.6	5.1	2.0	0	2.0	11.6	1.6	2.0	4.5	4.5	4.0	4.5	4.5	4.4	4.5	3.9	9.1	4.0	4.3	3.7
Ref No.	IC3001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	4.5	4.5	4.5	4.5	9.0	0	0	0	0	0	4.5	4.5	4.5	4.5	0	-	9.5	4.5	4.5	0
PLAY	4.5	4.5	4.5	4.5	9.0	0	0	0	0	0	4.5	4.5	4.5	4.5	0	-	9.5	4.5	4.5	0
STOP	3.7	3.7	3.7	3.8	9.0	0	0	0	0	0	4.5	4.5	4.5	4.5	0	-	0.3	4.5	4.5	0
Ref No.	IC3001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
REC	2.1	5.0	1.5	5.1	2.1	4.5	3.6	4.8	4.6	5.0	2.0	2.8	2.1	5.1	2.0	0	2.1	0	2.0	2.5
PLAY	2.1	5.0	1.5	5.1	2.1	4.5	3.6	4.8	4.6	5.0	2.0	2.8	2.1	5.1	2.0	0	2.1	0	2.0	2.5
STOP	4.7	5.0	1.5	5.1	2.1	4.5	3.6	4.8	4.6	5.1	5.0	2.8	2.1	5.1	2.0	0	2.1	0	2.0	2.5

Ref No.	IC4001						IC4009													
MODE	1	2	3	4	5		1	2	3	4	5	6	7	8						
REC	3.4	0	4.8	6.1	5.0		5.8	5.8	5.8	0	5.8	5.8	5.8	11.6						
PLAY	3.4	0	4.8	6.1	5.0		5.8	5.8	5.8	0	5.8	5.8	5.8	11.6						
STOP	3.4	0	4.8	6.1	5.0		5.8	5.8	5.8	0	5.8	5.8	5.8	11.6						
Ref No.	IC4012								IC4901											
MODE	1	2	3	4	5	6	7	8		1	2	3								
REC	5.8	5.8	5.8	0	5.8	5.8	5.8	11.6		1.7	5.0	0								
PLAY	5.8	5.8	5.8	0	5.8	5.8	5.8	11.6		1.7	5.0	0								
STOP	5.8	5.8	5.8	0	5.8	5.8	5.8	11.6		1.7	5.0	0								
Ref No.	IC7301																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	2.4	2.4	2.4	0	0	2.4	0	2.4	0	2.4	0	-	0	2.9	2.6	0	0	2.8	0	0
PLAY	2.4	2.4	2.4	0	0	2.4	0	2.4	0	2.4	0	-	0	2.9	2.6	0	0	2.8	0	0
STOP	2.4	2.4	2.4	0	0	2.4	0	2.4	0	2.4	0	-	0	2.9	2.6	0	0	2.8	0	0
Ref No.	IC7301																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	2.3	0	-	1.5	2.4	1.4	0	5.0	5.0	5.0	2.9	2.4	2.4	2.5	2.5	0	-	2.4	-	-
PLAY	2.3	0	-	1.5	2.4	1.4	0	5.0	5.0	5.0	2.9	2.4	2.4	2.5	2.5	0	-	2.4	-	-
STOP	2.3	0	-	1.5	2.4	1.4	0	5.0	5.0	5.0	2.9	2.4	2.4	2.5	2.5	0	-	2.4	-	-
Ref No.	IC7301																			
MODE	41	42	43	44																
REC	2.4	-	-	0																
PLAY	2.4	-	-	0																
STOP	2.4	-	-	0																
Ref No.	IC7302						IC7401						IC7402							
MODE	1	2	3	4	5		1	2	3	4	5		1	2	3	4	5			
REC	5.0	0	4.9	-	-		12.4	4.2	11.6	2.6	0		6.1	0	6.1	-	5.1			
PLAY	5.0	0	4.9	-	-		12.4	4.2	11.6	2.6	0		6.1	0	6.1	-	5.1			
STOP	5.0	0	4.9	-	-		12.4	4.2	11.6	2.6	0		6.1	0	6.1	-	5.1			
Ref No.	IC7403						IC7404													
MODE	1	2	3	4	5		1	2	3	4	5	6	7	8						
REC	6.1	0	4.2	-	5.0		0	0	0	0	3.2	3.2	0	3.3						
PLAY	6.1	0	4.2	-	5.0		0	0	0	0	3.2	3.2	0	3.3						
STOP	6.1	0	4.2	-	5.0		0	0	0	0	3.2	3.2	0	3.3						
Ref No.	IC7501																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	0.3	0	4.9	3.8	0.8	0.8	4.4	0	0	2.1	1.2	4.9	1.4	0	2.1	3.3	4.9	3.3	3.2	3.3
PLAY	0.3	0	4.9	3.8	0.8	0.8	4.4	0	0	0.7	1.2	4.9	1.4	0	2.1	3.3	4.9	3.3	3.2	3.3
STOP	0.3	0	4.9	4.5	0.9	0.9	4.4	0	0	0.7	1.2	4.9	1.4	0	2.1	3.3	4.9	3.3	3.2	3.3
Ref No.	IC7501																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	3.1	1.3	3.2	0	3.3	3.3	0.1	3.3	3.3	3.2	3.3	3.3	0	3.3	3.3	3.2	3.3	0	0	4.9
PLAY	3.1	1.3	3.2	0	3.3	3.3	0.1	3.3	3.3	3.2	3.3	3.3	0	3.3	3.3	3.2	3.3	0	0	4.9
STOP	3.1	1.3	3.2	0	3.3	3.3	0.1	3.3	3.3	3.2	3.3	3.3	0	3.3	3.3	3.2	3.3	0	0	4.9
Ref No.	IC7501																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	0	4.9	4.9	4.8	0	4.9	5.0	5.0	-	-	-	-	0	4.8	0	0	0	3.3	-	5.0
PLAY	0	4.9	4.9	4.8	0	4.9	5.0	5.0	-	-	-	-	0	4.8	0	0	0	3.3	-	5.0
STOP	4.9	4.9	4.9	4.8	0	4.9	5.0	5.0	-	-	-	-	0	4.8	0	0	0	3.3	-	5.0
Ref No.	IC7501																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	0	5.0	-	0	4.9	0	-	0	-	-	-	-	4.9	0	5.0	0	-	0	0	0
PLAY	0	5.0	-	0	4.9	0	-	0	-	-	-	-	4.9	0	5.0	0	-	0	0	0
STOP	0	5.0	-	0	4.9	0	-	0	-	-	-	-	4.9	0	5.0	0	-	0	0	0
Ref No.	IC7501																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
REC	3.3	0	0	4.7	3.2	5.0	5.0	5.0	2.0	5.0	0	0	2.5	1.2	1.6	0	0	2.0	5.0	0
PLAY	3.3	0	0	4.7	3.2	5.0	5.0	5.0	2.0	5.0	0	0	2.5	1.2	1.6	0	0	2.0	5.0	0
STOP	3.3	0	0	4.7	3.2	5.0	5.0	5.0	2.0	5.0	0	0	2.5	1.2	1.6	0	0	2.0	5.0	0
Ref No.	IC7503																			
MODE	1	2	3	4	5	6	7	8												
REC	0	0.2	5.0	4.2	5.0	5.0	5.4	5.0												
PLAY	0	0.2	5.0	4.2	5.0	5.0	5.4	5.0												
STOP	0	0.2	5.0	4.2	5.0	5.0	5.4	5.0												
Ref No.	IC7504																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	0	0	0	0	2.9	0.3	0.3	4.8	4.3	0.1	0.1	0	4.7	-17.8	-17.8	-9.3	-17.8	-20.7	-17.9	-6.5
PLAY	0	0	0	0	2.9	0.3	0.3	4.8	4.3	0.1	0.1	0	4.7	-17.8	-17.8	-9.3	-17.8	-20.7	-17.9	-6.5
STOP	0	0	0	0	2.9	0.2	0.2	4.8	4.3	0.1	0.1	0	4.8	-20.7	-20.7	-20.7	-17.9	-20.7	-20.7	-20.7
Ref No.	IC7504																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	-15.0	0	-9.4	-9.3	-17.8	-20.7	-20.7	-20.7	-12.2	-21.4	-20.9	-20.9	-20.9	-20.9	-20.9	-18.4	-18.1	-18.1	-18.1	-18.1
PLAY	-15.0	0	-9.4	-9.3	-17.8	-20.7	-20.7	-20.7	-12.2	-21.4	-20.9	-20.9	-20.9	-20.9	-20.9	-18.4	-18.1	-18.1	-18.1	-18.1
STOP	-17.9	-15.1	12.2	-20.7	-20.7	-20.7	-20.7	-20.8	-20.8	-21.4	-21.0	-20.8	-21.0	-21.0	-21.0	-18.4	-18.2	-18.2	-18.2	-18.2
Ref No.	IC7504															IC7801				
MODE	41	42	43	44												1	2	3	4	5
REC	-18.1	-18.1	5.0	0												0	6.1	5.0	-	4.8
PLAY	-18.1	-18.1	5.0	0												0	6.1	5.0	-	4.8
STOP	-18.2	-18.2	0	0												0	6.1	5.0	-	4.8

Ref No.	Q1501							Q1502				Q1508								
MODE	1	2	3	4	5	6		E	C	B		1	2	3	4	5	6			
REC	5.1	5.1	2.6	5.2	5.1	5.1		3.3	4.1	3.9		3.3	3.3	9.0	12.2	3.3	3.3			
PLAY	5.1	5.1	2.6	5.2	5.1	5.1		3.3	4.1	3.9		3.3	3.3	9.0	12.2	3.3	3.3			
STOP	5.1	5.1	2.6	5.2	5.1	5.1		3.3	4.1	3.9		3.3	3.3	9.0	12.2	3.3	3.3			
Ref No.	Q1509								Q4006				Q4007				Q4008			
MODE	1	2	3	4	5	6	7	8		E	C	B		E	C	B		E	C	B
REC	12.4	12.4	12.4	6.2	12.3	12.3	12.3	12.3		0	0	-0.1		0	0	-0.1		0	0	-0.1
PLAY	12.4	12.4	12.4	6.2	12.3	12.3	12.3	12.3		0	0	-0.1		0	0	-0.1		0	0	-0.1
STOP	12.4	12.4	12.4	6.2	12.3	12.3	12.3	12.3		0	0	-0.1		0	0	-0.1		0	0	-0.1
Ref No.	Q4009				Q4060				Q7403				Q7501				Q7502			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	0	0	-0.1		0	5.1	0		0	0	4.9		2.7	0	2.1		2.0	5.0	1.6	
PLAY	0	0	-0.1		0	5.1	0		0	0	4.9		2.7	0	2.1		2.0	5.0	1.6	
STOP	0	0	-0.1		0	5.1	0		0	0	4.9		2.7	0	2.1		2.0	5.0	1.6	
Ref No.	Q7503				Q7504				Q7505				Q7509				Q7510			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	2.7	0	2.1		2.0	5.0	1.6		1.1	11.3	1.6		4.5	3.3	3.3		0	9.1	-0.2	
PLAY	2.7	0	2.1		2.0	5.0	1.6		1.1	11.3	1.6		4.5	3.3	3.3		0	9.3	-0.1	
STOP	2.7	0	2.1		2.0	5.0	1.6		1.1	11.3	1.6		4.5	3.3	3.3		0	9.1	-0.2	
Ref No.	Q7511				Q7514				Q7515				Q7516				Q7517			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	12.3	7.6	11.3		-18.5	5.0	-18.4		0	5.0	0		0	0	4.6		0	4.6	0	
PLAY	12.3	7.6	11.3		-18.5	5.0	-18.4		0	5.0	0		0	0	4.6		0	4.6	0	
STOP	12.3	7.6	11.3		-18.5	5.0	-18.4		0	5.0	0		0	0	5.1		0	5.1	0.1	
Ref No.	Q7802				Q7803															
MODE	E	C	B		E	C	B													
REC	0	0	0.5		0	0.5	0													
PLAY	0	0	0.5		0	0.5	0													
STOP	0	0	0.5		0	0.5	0													
Ref No.	QR1501				QR1502				QR1503				QR1504				QR4002			
MODE	E	C	B		E	C	B		E	C	B		E	C	B		E	C	B	
REC	0	0	4.9		0	0	4.8		0	0	4.9		0	4.5	0		5.1	-0.1	5.1	
PLAY	0	0	4.9		0	0	4.8		0	0	4.9		0	4.5	0		5.1	-0.1	5.1	
STOP	0	0	4.9		0	0	4.8		0	0	4.9		0	4.5	0		5.1	-0.1	5.1	
Ref No.	QR7401				QR7402				QR7503				QR7504							
MODE	E	C	B		E	C	B		E	C	B		E	C	B					
REC	0	4.2	0		38.1	38.0	0		3.3	5.0	3.3		3.3	5.0	3.3					
PLAY	0	4.2	0		38.1	38.0	0		3.3	5.0	3.3		3.3	5.0	3.3					
STOP	0	4.2	0		38.1	38.0	0		3.3	5.0	3.3		3.3	5.0	3.3					
Ref No.	QR7507				QR7508															
MODE	E	C	B		E	C	B													
REC	0	0	4.9		0	-0.2	0													
PLAY	0	0	4.9		0	-0.1	0													
STOP	0	0	4.9		0	-0.2	0													

14.1.3. PS90001, PS90002 Connector

Ref No.	PS90001																				
MODE	1	2	3	4	5	6	7	8	9	10											
REC	3.0	3.8	1.7	3.1	3.0	3.2	3.2	0	11.6	0											
PLAY	3.0	3.8	1.7	3.1	3.0	3.2	3.2	0	11.6	0											
STOP	3.0	3.8	1.7	3.1	3.0	3.2	3.2	0	11.6	0											
Ref No.	PS90002																				
MODE	1	2	3	4	5	6	7	8	9	10	11										
REC	0	0	0	2.4	0.4	0	0.2	0	5.7	0	5.7										
PLAY	0	0	0	2.4	0.4	0	0.2	0	5.7	0	5.7										
STOP	0	0	0	2.4	0.4	0	0.2	0	5.7	0	5.7										

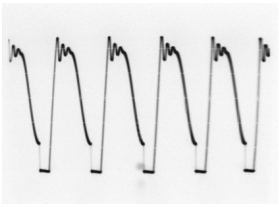
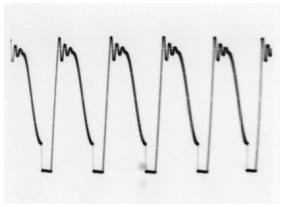
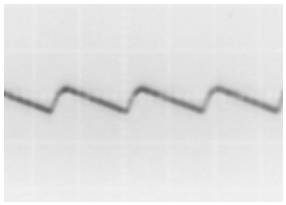
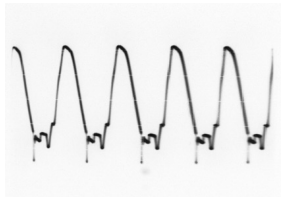
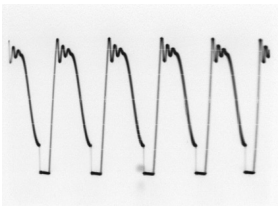
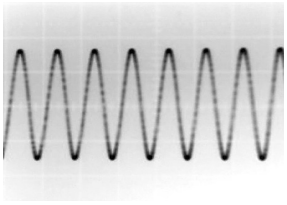
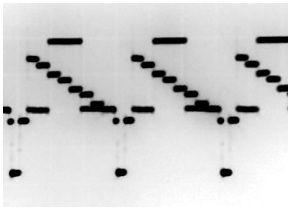
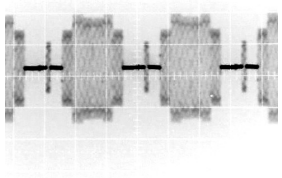
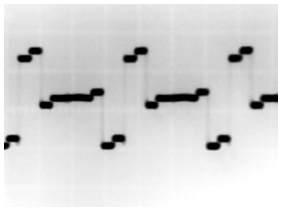
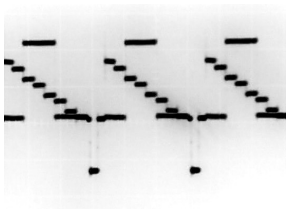
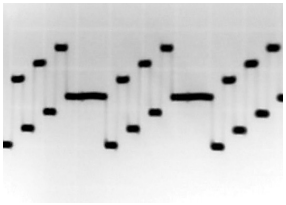
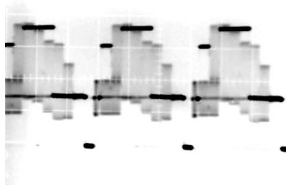
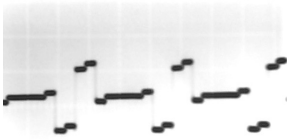
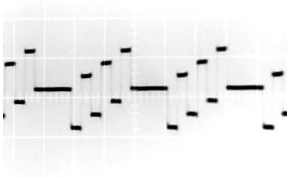
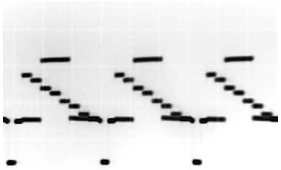
14.1.4. HDMI P.C.B.

Ref No.	IC56103																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	-	-	-	-	1.2	-	0	2.8	3.3	0	0	0	3.3	0	0	0	3.3	0	0	0
PLAY	-	-	-	-	1.2	-	0	2.8	3.3	0	0	0	3.3	0	0	0	3.3	0	0	0
STOP	-	-	-	-	1.2	-	0	2.8	3.3	0	0	0	3.3	0	0	0	3.3	0	0	0
Ref No.	IC56103																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	3.3	0	0	0	3.3	1.2	0	3.3	-	-	-	-	1.5	3.3	1.3	0	0	1.3	0	3.3
PLAY	3.3	0	0	0	3.3	1.2	0	3.3	-	-	-	-	1.5	3.3	1.3	0	0	1.3	0	3.3
STOP	3.3	0	0	0	3.3	1.2	0	3.3	-	-	-	-	1.5	3.3	1.3	0	0	1.3	0	3.3
Ref No.	IC56103																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	1.7	1.2	1.6	0	1.6	0	1.2	0	0	0	0	3.3	0	0	1.2	0	0	0	0	0
PLAY	1.7	1.2	1.6	0	1.6	0	1.2	0	0	0	0	3.3	0	0	1.2	0	0	0	0	0
STOP	1.7	1.2	1.6	0	1.6	0	1.2	0	0	0	0	3.3	0	0	1.2	0	0	0	0	0
Ref No.	IC56103																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	0	0	0	-	-	0	0	0	0	3.3	0	0	0	0	1.2	0	0	0	0	0
PLAY	0	0	0	-	-	0	0	0	0	3.3	0	0	0	0	1.2	0	0	0	0	0
STOP	0	0	0	-	-	0	0	0	0	3.3	0	0	0	0	1.2	0	0	0	0	0
Ref No.	IC56103																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
REC	0	0	0	3.3	1.2	0	1.8	0.9	1.1	1.4	0	0.8	0.9	0.9	0.9	-	-	-	3.3	3.3
PLAY	0	0	0	3.3	1.2	0	1.8	0.9	1.1	1.4	0	0.8	0.9	0.9	0.9	-	-	-	3.3	3.3
STOP	0	0	0	3.3	1.2	0	1.8	0.9	1.1	1.4	0	0.8	0.9	0.9	0.9	-	-	-	3.3	3.3
Ref No.	IC56103																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
REC	0	1.2	0	0	0	3.3	3.3	3.3	1.2	0	1.5	0	3.3	3.3	3.3	1.2	0	0	0	0.1
PLAY	0	1.2	0	0	0	3.3	3.3	3.3	1.2	0	1.5	0	3.3	3.3	3.3	1.2	0	0	0	0.1
STOP	0	1.2	0	0	0	3.3	3.3	3.3	1.2	0	1.5	0	3.3	3.3	3.3	1.2	0	0	0	0.1
Ref No.	IC56103									IC56104						IC56105				
MODE	121	122	123	124	125	126	127	128		1	2	3	4	5		1	2	3	4	5
REC	0.1	0	1.2	3.3	0	-	-	-		4.6	0	3.3	-	3.3		5.7	0	4.8	-	5.0
PLAY	0.1	0	1.2	3.3	0	-	-	-		4.6	0	3.3	-	3.3		5.7	0	4.8	-	5.0
STOP	0.1	0	1.2	3.3	0	-	-	-		4.6	0	3.3	-	3.3		5.7	0	4.8	-	5.0
Ref No.	IC56106						IC56107													
MODE	1	2	3	4	5		1	2	3	4	5									
REC	2.5	3.2	1.2	1.2	0		-	1.6	0	1.5	3.3									
PLAY	2.5	3.2	1.2	1.2	0		-	1.6	0	1.5	3.3									
STOP	2.5	3.2	1.2	1.2	0		-	1.6	0	1.5	3.3									
Ref No.	Q56001				Q56002				Q56101				Q56102				Q56103			
MODE	E	C	B		E	C	B		E	C	B		S	D	G		S	D	G	
REC	0	4.5	0		0	0	0.6		0	3.2	0		0.1	0.1	3.3		0.1	0.1	3.3	
PLAY	0	4.5	0		0	0	0.6		0	3.2	0		0.1	0.1	3.3		0.1	0.1	3.3	
STOP	0	4.5	0		0	0	0.6		0	3.2	0		0.1	0.1	3.3		0.1	0.1	3.3	
Ref No.	Q56104				Q56105															
MODE	E	C	B		E	C	B													
REC	3.4	3.0	3.4		0	3.0	0													
PLAY	3.4	3.0	3.4		0	3.0	0													
STOP	3.4	3.0	3.4		0	3.0	0													

14.1.5. P59001 Connector

Ref No.	P59001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
REC	0	0	0	0	0	0	0	0	0	0	0	0	3.3	12.3	4.9	12.3	3.3	0	4.9	0
PLAY	0	0	0	0	0	0	0	0	0	0	0	0	3.3	12.3	4.9	12.3	3.3	0	4.9	0
STOP	0	0	0	0	0	0	0	0	0	0	0	0	3.3	12.3	4.9	12.3	3.3	0	4.9	0
Ref No.	P59001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
REC	3.3	5.1	3.3	5.1	5.0	3.3	2.3	3.1	2.5	4.9	2.5	3.3	0	3.3	0	3.3	0	3.3	2.5	-
PLAY	3.3	5.1	3.3	5.1	5.0	3.3	2.3	3.1	2.5	4.9	2.5	3.3	0	3.3	0	3.3	0	3.3	2.5	-
STOP	3.3	5.1	3.3	5.1	5.0	3.3	2.3	3.2	2.5	4.9	2.5	3.3	0	3.3	0	3.3	0	3.3	2.5	-
Ref No.	P59001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
REC	2.5	3.2	0	1.7	0	0	0	3.3	0	3.3	1.1	-	0	0.3	1.5	3.3	0	-	1.0	4.8
PLAY	2.5	3.2	0	1.7	0	0	0	3.3	0	3.3	1.1	-	0	0.3	1.5	3.3	0	-	1.0	4.8
STOP	2.5	3.2	0	1.7	0	0	0	3.3	0	3.3	1.1	-	0	0.3	1.5	3.3	0	-	1.0	4.8
Ref No.	P59001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
REC	0	4.8	1.1	12.3	0	12.3	1.0	12.3	0	12.3	1.3	12.3	0	12.3	2.1	5.0	0	0	-	-
PLAY	0	4.8	1.1	12.3	0	12.3	1.0	12.3	0	12.3	1.3	12.3	0	12.3	2.1	5.0	0	0	-	-
STOP	0	4.8	1.1	12.3	0	12.3	1.0	12.3	0	12.3	1.3	12.3	0	12.3	2.1	5.0	0	0	-	-
Ref No.	P59001																			
MODE	81	82	83	84	85	86	87	88												
REC	0	0	0	.33	0	0	0	0												
PLAY	0	0	0	0.3	0	0	0	0												
STOP	0	0	0	0.3	0	0	0	0												

14.1.6. Waveform Chart

 T1150-4 STOP 8.6Vp-p (50 μ sec.div)	 T1150-5,6 STOP 34Vp-p (50 μ sec.div)	 T1150-12 STOP 10Vp-p (2m sec.div)	 IC1150-1 STOP 8.0Vp-p (50 μ sec.div)
 IC1150-9 STOP 580Vp-p (50 μ sec.div)	 P7402-29,31 REC/PLAY 0.8Vp-p (1m sec.div)	 P7402-51 REC/PLAY 1.0Vp-p (20 μ sec.div)	 P7402-55 REC/PLAY 0.8Vp-p (20 μ sec.div)
 P7402-59 REC/PLAY 0.6Vp-p (20 μ sec.div)	 P7402-63 REC/PLAY 1.0Vp-p (20 μ sec.div)	 P7402-67 REC/PLAY 0.6Vp-p (20 μ sec.div)	 P7402-71 REC/PLAY 1.0Vp-p (20 μ sec.div)
 JK3903-2 REC/PLAY 1.0Vp-p (20 μ sec.div)	 JK3903-4 REC/PLAY 1.0Vp-p (20 μ sec.div)	 JK3903-6 REC/PLAY 2.0Vp-p (20 μ sec.div)	

14.1.7. Abbreviations

INITIAL/LOGO		ABBREVIATIONS
A	A0~UP	ADDRESS
	ACLK	AUDIO CLOCK
	AD0~UP	ADDRESS BUS
	ADATA	AUDIO PES PACKET DATA
	ALE	ADDRESS LATCH ENABLE
	AMUTE	AUDIO MUTE
	AREQ	AUDIO PES PACKET REQUEST
	ARF	AUDIO RF
	ASI	SERVO AMP INVERTED INPUT
	ASO	SERVO AMP OUTPUT
	ASYNC	AUDIO WORD DISTINCTION SYNC
B	BCK	BIT CLOCK (PCM)
	BCKIN	BIT CLOCK INPUT
	BDO	BLACK DROP OUT
	BLKCK	SUB CODE BLOCK CLOCK
	BOTTOM	CAP. FOR BOTTOM HOLD
	BYP	BYPATH
	BYTCK	BYTE CLOCK
C	CAV	CONSTANT ANGULAR VELOCITY
	CBDO	CAP. BLACK DROP OUT
	CD	COMPACT DISC
	CDSCK	CD SERIAL DATA CLOCK
	CDSRDATA	CD SERIAL DATA
	CDRF	CD RF (EFM) SIGNAL
	CDV	COMPACT DISC-VIDEO
	CHNDATA	CHANNEL DATA
	CKSL	SYSTEM CLOCK SELECT
	CLV	CONSTANT LINEAR VELOCITY
	COFTR	CAP. OFF TRACK
	CPA	CPU ADDRESS
	CPCS	CPU CHIP SELECT
	CPDT	CPU DATA
	CPUADR	CPU ADDRESS LATCH
	CPUADT	CPU ADDRESS DATA BUS
	CPUIRQ	CPU INTERRUPT REQUEST
	CPRD	CPU READ ENABLE
	CPWR	CPU WRITE ENABLE
	CS	CHIP SELECT
	CSYNCIN	COMPOSITE SYNC IN
	CSYNCOUT	COMPOSITE SYNC OUT
D	DACCK	D/A CONVERTER CLOCK
	DEEMP	DEEMPHASIS BIT ON/OFF
	DEMPH	DEEMPHASIS SWITCHING
	DIG0~UP	FL DIGIT OUTPUT
	DIN	DATA INPUT
	DMSRCK	DM SERIAL DATA READ CLOCK
	DMUTE	DIGITAL MUTE CONTROL
	DO	DROP OUT
	DOUT0~UP	DATA OUTPUT
	DRF	DATA SLICE RF (BIAS)
	DRPOUT	DROP OUT SIGNAL
	DREQ	DATA REQUEST
	DRESP	DATA RESPONSE
	DSC	DIGITAL SERVO CONTROLLER
	DSLF	DATA SLICE LOOP FILTER
	DVD	DIGITAL VIDEO DISC

INITIAL/LOGO		ABBREVIATIONS
E	EC	ERROR TORQUE CONTROL
	ECR	ERROR TORQUE CONTROL REFERENCE
	ENCSEL	ENCODER SELECT
	ETMCLK	EXTERNAL M CLOCK (81MHz/40.5MHz)
	ETSCLK	EXTERNAL S CLOCK (54MHz)
F	FBAL	FOCUS BALANCE
	FCLK	FRAME CLOCK
	FE	FOCUS ERROR
	FFI	FOCUS ERROR AMP INVERTED INPUT
	FEO	FOCUS ERROR AMP OUTPUT
	FG	FREQUENCY GENERATOR
	FSC	FREQUENCY SUB CARRIER
	FSCK	FS (384 OVER SAMPLING) CLOCK
G	GND	COMMON GROUNDING (EARTH)
H	HA0~UP	HOST ADDRESS
	HD0~UP	HOST DATA
	HINT	HOST INTERRUPT
	HRXW	HOST READ/WRITE

INITIAL/LOGO		ABBREVIATIONS
I	IECOUT	IEC958 FORMAT DATA OUTPUT
	IPFRAG	INTERPOLATION FLAG
	IREF	I (CURRENT) REFERENCE
	ISEL	INTERFACE MODE SELECT
L	LDON	LASER DIODE CONTROL
	LPC	LASER POWER CONTROL
	LRCK	L CH/R CH DISTINCTION CLOCK
M	MA0~UP	MEMORY ADDRESS
	MCK	MEMORY CLOCK
	MCKI	MEMORY CLOCK INPUT
	MCLK	MEMORY SERIAL COMMAND CLOCK
	MDATA	MEMORY SERIAL COMMAND DATA
	MDQ0~UP	MEMORY DATA INPUT/OUTPUT
	MDQM	MEMORY DATA I/O MASK
	MLD	MEMORY SERIAL COMMAND LOAD
	MPEG	MOVING PICTURE EXPERTS GROUP
O	ODC	OPTICAL DISC CONTROLLER
	OFTR	OFF TRACKING
	OSCI	OSCILLATOR INPUT
	OSCO	OSCILLATOR OUTPUT
	OSD	ON SCREEN DISPLAY
P	P1~UP	PORT
	PCD	CD TRACKING PHASE DIFFERENCE
	PCK	PLL CLOCK
	PDVD	DVD TRACKING PHASE DIFFERENCE
	PEAK	CAP. FOR PEAK HOLD
	PLLCLK	CHANNEL PLL CLOCK
	PLLOK	PLL LOCK
	PWMCTL	PWM OUTPUT CONTROL
	PWMDA	PULSE WAVE MOTOR DRIVE A
	PWMOA, B	PULSE WAVE MOTOR OUT A, B

INITIAL/LOGO		ABBREVIATIONS
R	RE	READ ENABLE
	RFENV	RF ENVELOPE
	RFO	RF PHASE DIFFERENCE OUTPUT
	RS	(CD-ROM) REGISTER SELECT
	RSEL	RF POLARITY SELECT
	RST	RESET
	RSV	RESERVE
S	SBI0, 1	SERIAL DATA INPUT
	SBO0	SERIAL DATA OUTPUT
	SBT0, 1	SERIAL CLOCK
	SCK	SERIAL DATA CLOCK
	SCKR	AUDIO SERIAL CLOCK RECEIVER
	SCL	SERIAL CLOCK
	SCLK	SERIAL CLOCK
	SDA	SERIAL DATA
	SEG0~UP	FL SEGMENT OUTPUT
	SELCLK	SELECT CLOCK
	SEN	SERIAL PORT ENABLE
	SIN1, 2	SERIAL DATA IN
	SOUT1, 2	SERIAL DATA OUT
	SPDI	SERIAL PORT DATA INPUT
	SPDO	SERIAL PORT DATA OUTPUT
	SPEN	SERIAL PORT R/W ENABLE
	SPRCLK	SERIAL PORT READ CLOCK
	SPWCLK	SERIAL PORT WRITE CLOCK
	SQCK	SUB CODE Q CLOCK
	SQCX	SUB CODE Q DATA READ CLOCK
	SRDATA	SERIAL DATA
	SRMADR	SRAM ADDRESS BUS
	SRMDT0~7	SRAM DATA BUS 0~7
	SS	START/STOP
	STAT	STATUS
	STCLK	STREAM DATA CLOCK
	STD0~UP	STREAM DATA
	STENABLE	STREAM DATA INPUT ENABLE
	STSEL	STREAM DATA POLARITY SELECT
	STVALID	STREAM DATA VALIDITY
	SUBC	SUB CODE SERIAL
	SBCK	SUB CODE CLOCK
	SUBQ	SUB CODE Q DATA
	SYSCLK	SYSTEM CLOCK

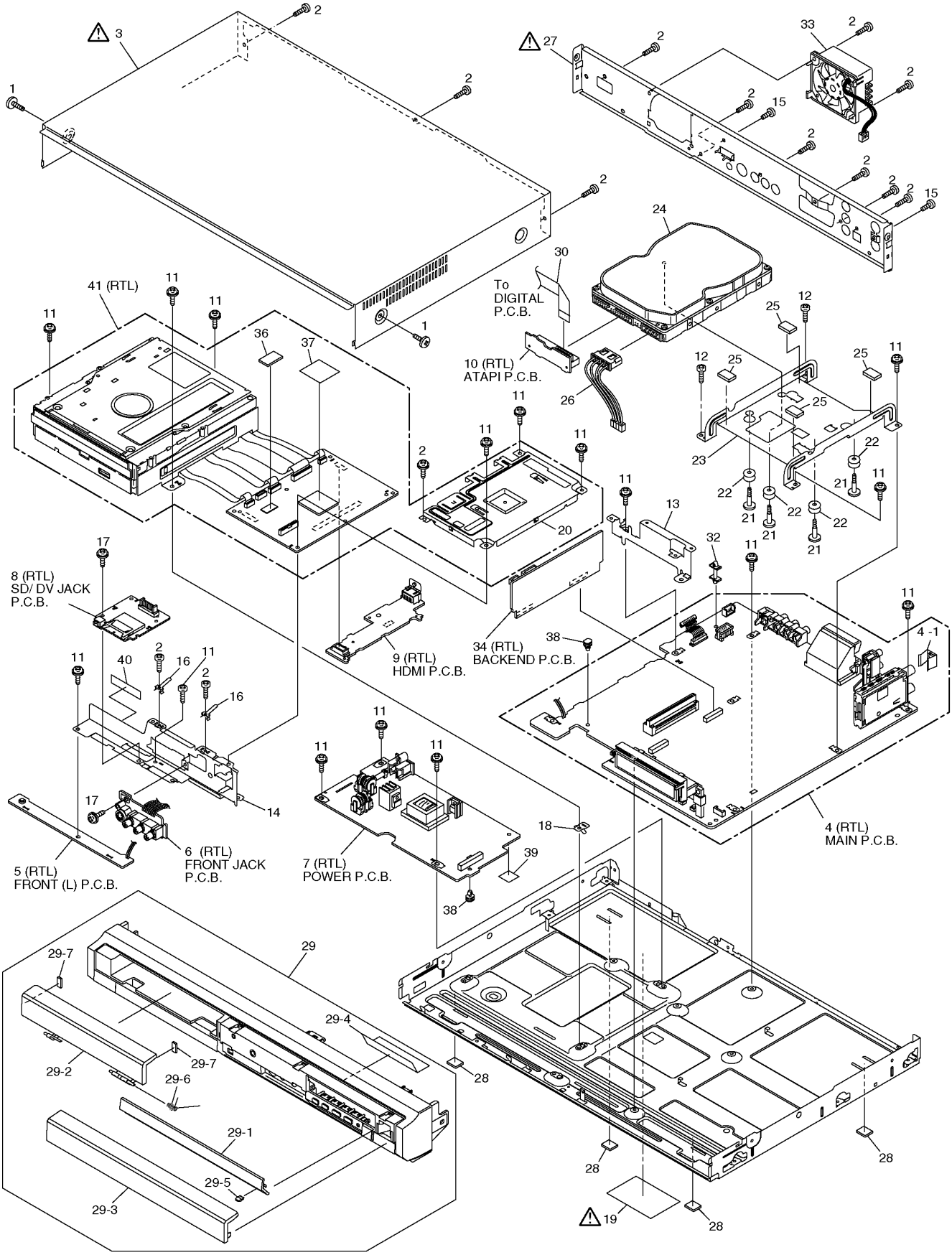
INITIAL/LOGO		ABBREVIATIONS
T	TE	TRACKING ERROR
	TIBAL	BALANCE CONTROL
	TID	BALANCE OUTPUT 1
	TIN	BALANCE INPUT
	TIP	BALANCE INPUT
	TIS	BALANCE OUTPUT 2
	TPSN	OP AMP INPUT
	TPSO	OP AMP OUTPUT
	TPSP	OP AMP INVERTED INPUT
	TRCRS	TRACK CROSS SIGNAL
	TRON	TRACKING ON
	TRSON	TRAVERSE SERVO ON

INITIAL/LOGO		ABBREVIATIONS
V	VBLANK	V BLANKING
	VCC	COLLECTOR POWER SUPPLY VOLTAGE
	VCDCONT	VIDEO CD CONTROL (TRACKING BALANCE)
	VDD	DRAIN POWER SUPPLY VOLTAGE
	VFB	VIDEO FEED BACK
	VREF	VOLTAGE REFERENCE
	VSS	SOURCE POWER SUPPLY VOLTAGE
W	WAIT	BUS CYCLE WAIT
	WDCK	WORD CLOCK
	WEH	WRITE ENABLE HIGH
	WSR	WORD SELECT RECEIVER
X	X	X´ TAL
	XALE	X ADDRESS LATCH ENABLE
	XAREQ	X AUDIO DATA REQUEST
	XCDROM	X CD ROM CHIP SELECT
	XCS	X CHIP SELECT
	XCSYNC	X COMPOSITE SYNC
	XDS	X DATA STROBE
	XHSYNCO	X HORIZONTAL SYNC OUTPUT
	XHINT	XH INTERRUPT REQUEST
	XI	X´ TAL OSCILLATOR INPUT
	XINT	X INTERRUPT
	XMW	X MEMORY WRITE ENABLE
	XO	X´ TAL OSCILLATOR OUTPUT
	XRE	X READ ENABLE
	XSRMCE	X SRAM CHIP ENABLE
	XSRMOE	X SRAM OUTPUT ENABLE
	XSRMWE	X SRAM WRITE ENABLE
	XVCS	X V-DEC CHIP SELECT
	XVDS	X V-DEC CONTROL BUS STROBE
	XVSYNCO	X VERTICAL SYNC OUTPUT

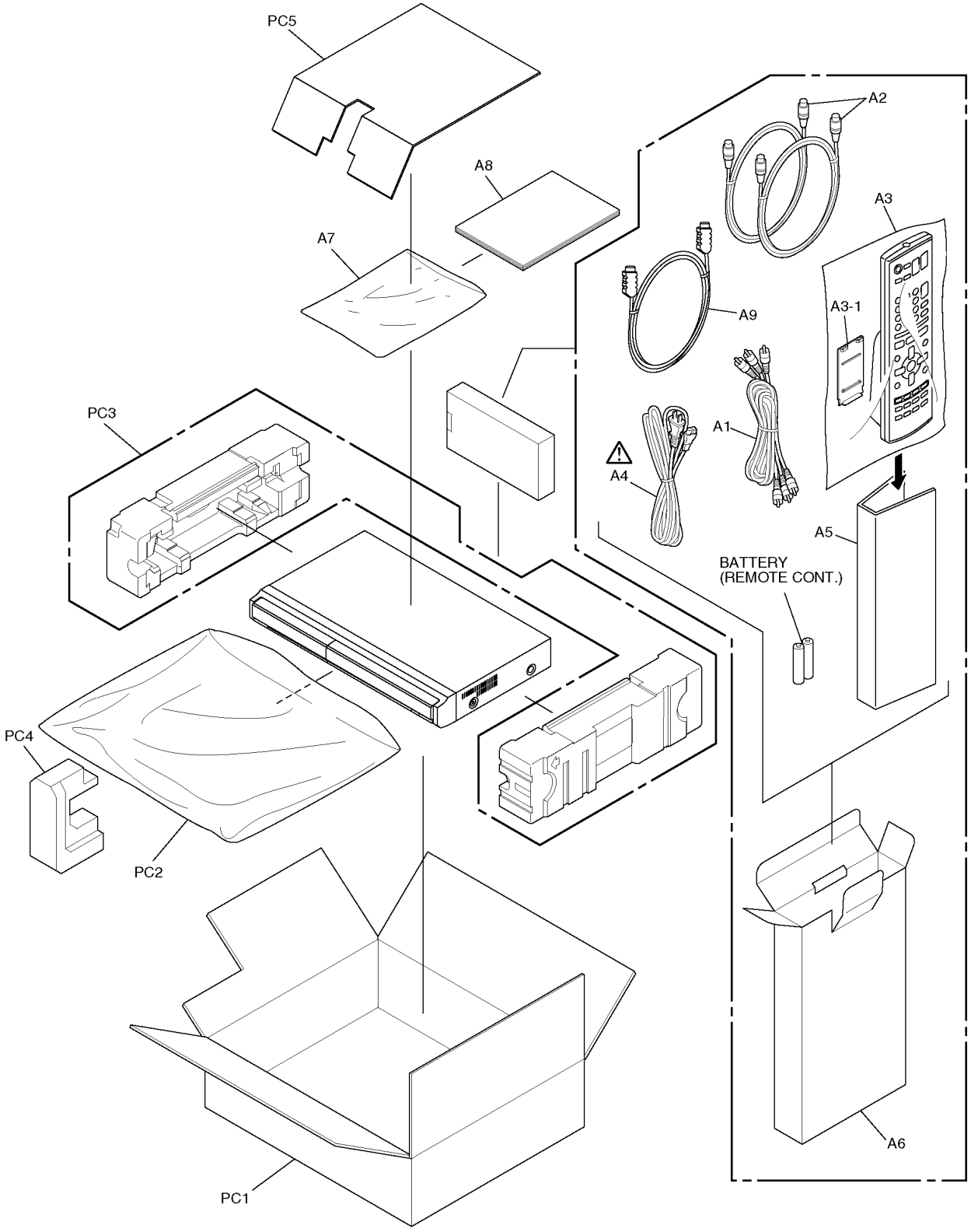
15 Parts and Exploded Views

15.1. Exploded Views

15.1.1. Casing Parts & Mechanism Section


41 (RTL)
To DIGITAL P.C.B.
10 (RTL) ATAPI P.C.B.
8 (RTL) SD/ DV JACK P.C.B.
9 (RTL) HDMI P.C.B.
34 (RTL) BACKEND P.C.B.
4 (RTL) MAIN P.C.B.
5 (RTL) FRONT (L) P.C.B.
6 (RTL) FRONT JACK P.C.B.
7 (RTL) POWER P.C.B.

15.1.2. Packing & Accessories Section



15.2. Replacement Parts List

Notes:

*Important safety notice:

Components identified by ⚠ mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.

When replacing any of components, be sure to use only manufactures specified parts shown in the parts list.

*Warning: This product uses a laser diode. Refer to caution statements.

*Capacity values are in microfarads (μF) unless specified otherwise, P=Pico-farads (pF), F=Farads (F).

*Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000k (OHM).

*The marking (RTL) indicates the retention time is limited for this item. After the discontinuation of this assembly in production, it will no longer be available.

*"(IA)-(IF)", marks in Remarks indicate languages of instruction manuals. [(IA): English, (IB): German, (IC): Italian, (ID): French, (IE): Spanish, (IF): English]

*All parts are supplied by PAVCSK.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
■	RFKB79156HT	MAIN P.C.B.	1	(RTL) EX77EG
■	RFKB79156JT	MAIN P.C.B.	1	(RTL) EX77EC,EC1
■	RFKB79156K	MAIN P.C.B.	1	(RTL) EX77EB
■	RFKB79156TT	MAIN P.C.B.	1	(RTL) EX87EG
■	RFKB79156UT	MAIN P.C.B.	1	(RTL) EX87EC,EC1
■	RFKB79156X	MAIN P.C.B.	1	(RTL) EX87EB
C1501	ECJ2FB1A225K	10V 2.2U	1	
C1502	F1H1H1030006	50V 0.01U	1	
C1503	F2A1A681A870	10V 680P	1	
C1504	F2A1C101B110	16V 100P	1	
C1505	ECJ1VC1H221J	50V 220P	1	
C1506	ECJ1VB1A105K	10V 1U	1	
C1508	ECJ1VB1A105K	10V 1U	1	
C1509	F1H1H1030006	50V 0.01U	1	
C1510	ECJ1VB1A105K	10V 1U	1	
C1511	ECJ1VB1A105K	10V 1U	1	
C1512	ECJ1VB1A105K	10V 1U	1	
C1516	F2A1H1510006	50V 150P	1	
C1518	F2A0J681A833	6.3V 680P	1	
C1521	F2A1C121A453	16V 120P	1	
C1523	F2A1A470A388	10V 47U	1	
C1524	F2A1A101A389	10V 100U	1	
C1525	F1H1C104A042	16V 0.1U	1	
C1526	ECJ1VB1A105K	10V 1U	1	
C1527	ECJ1VB1A105K	10V 1U	1	
C1528	F1K1C105A026	16V 1U	1	
C1529	F2A1A470A388	10V 47U	1	
C1535	ECJ1VB1A105K	10V 1U	1	
C1536	F1J0J106A014	6.3V 10U	1	
C1541	F2A1E1010067	25V 100U	1	
C1545	F2A1C470B110	16V 47P	1	
C1548	F2A1C121A453	16V 120P	1	
C1549	F2A1C121A453	16V 120P	1	
C1550	F1H1C104A042	16V 0.1U	1	
C1551	F1H1C104A042	16V 0.1U	1	
C1552	F2A1C3310045	16V 330P	1	
C1553	F1H1C104A042	16V 0.1U	1	
C1554	F1H1H2700003	50V 27P	1	
C1555	F1H1H1030006	50V 0.01U	1	
C1557	F2A0J6810007	6.3V 680P	1	
C1558	F2A1A1010072	10V 100U	1	
C1560	F2A0J101A825	6.3V 100U	1	
C3001	F1H1C104A042	16V 0.1U	1	
C3002	F1H1H1030006	50V 0.01U	1	
C3003	F1H1C104A042	16V 0.1U	1	
C3004	F1H1C104A042	16V 0.1U	1	
C3005	F2A0J471A832	6.3V 470P	1	
C3006	F2A0J471A832	6.3V 470P	1	
C3007	F2A1A471A869	10V 470P	1	
C3008	F2A1A101A868	10V 100U	1	
C3009	F2A1A471A869	10V 470P	1	
C3010	F2A1A101A868	10V 100U	1	
C3011	F1H1C104A042	16V 0.1U	1	
C3012	F2A1A471A869	10V 470P	1	
C3013	F2A1A101A868	10V 100U	1	
C3014	F1H1C104A042	16V 0.1U	1	EG,EC,EC1
C3015	F1H1C104A042	16V 0.1U	1	
C3016	F1H1C104A042	16V 0.1U	1	
C3018	F1H1C104A042	16V 0.1U	1	
C3020	F1H1C104A042	16V 0.1U	1	
C3022	F1H1C104A042	16V 0.1U	1	
C3023	F1H1H330A736	50V 33P	1	
C3024	F1H1C104A042	16V 0.1U	1	EB
C3025	F1H1C104A042	16V 0.1U	1	
C3026	F1H0J1050012	6.3V 1U	1	
C3027	F1H1C104A042	16V 0.1U	1	
C3028	F1H0J1050012	6.3V 1U	1	
C3029	F1H1C104A042	16V 0.1U	1	
C3030	F1H0J1050012	6.3V 1U	1	
C3031	F1H1H1030006	50V 0.01U	1	
C3032	F2A0J101A167	6.3V 100P	1	
C3033	F1H1H1030006	50V 0.01U	1	
C3034	F1H1H1030006	50V 0.01U	1	
C3035	F2A0J101A167	6.3V 100P	1	
C3036	F1H1C104A042	16V 0.1U	1	
C3037	F1H1C104A042	16V 0.1U	1	
C3040	F1H1C104A042	16V 0.1U	1	
C3041	F1H1C104A042	16V 0.1U	1	
C3042	F1H1C104A042	16V 0.1U	1	
C3058	ECJ1VC1H471J	50V 470P	1	
C3060	ECJ1VC1H471J	50V 470P	1	
C3064	F1H1C104A042	16V 0.1U	1	
C3065	F1H0J1050012	6.3V 1U	1	
C3910	F2A1V100A534	35V 10U	1	
C3911	F2A1V100A534	35V 10U	1	
C3914	F2A1H100A236	50V 10U	1	
C3915	F2A1H100A236	50V 10U	1	
C3916	F2A1H1R0A236	50V 1U	1	
C3917	F2A1H1R0A236	50V 1U	1	
C3918	F2A1H100A236	50V 10U	1	
C3919	F2A1H100A236	50V 10U	1	
C3928	F2A1V100A534	35V 10U	1	
C3929	F2A1V100A534	35V 10U	1	
C3935	F2A1E2210050	25V 220U	1	
C3951	ECJ1VC1H470J	50V 47P	1	
C3952	ECJ1VC1H470J	50V 47P	1	
C3953	ECJ1VC1H471J	50V 470P	1	
C3954	ECJ1VC1H471J	50V 470P	1	
C3955	F1H1H1010005	50V 100P	1	
C3956	F1H1H1010005	50V 100P	1	
C3957	ECJ1VC1H471J	50V 470P	1	
C3958	ECJ1VC1H471J	50V 470P	1	
C3959	ECJ1VC1H470J	50V 47P	1	
C3960	ECJ1VC1H470J	50V 47P	1	
C3961	F1H1H1010005	50V 100P	1	
C3962	F1H1H1010005	50V 100P	1	
C4008	F2A1E1010067	25V 100U	1	
C4019	F2A1C101A637	16V 100U	1	
C4021	F2A1C101A637	16V 100U	1	
C4023	F2A1H1R0A638	50V 1U	1	EG,EC,EC1
C4024	F2A1E1010067	25V 100U	1	
C4025	F2A1H1R0A638	50V 1U	1	EG,EC,EC1

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C4027	F2A1V100A534	35V 10U	1	
C4028	F2A1V100A534	35V 10U	1	
C4033	F2A1C220B173	16V 22P	1	
C4034	F2A1C220B173	16V 22P	1	
C4053	F2A1V100A534	35V 10U	1	
C4054	F2A1V100A534	35V 10U	1	
C4055	F1H1C104A008	16V 0.1U	1	
C4056	F2A1C471A628	16V 470U	1	
C4057	ECJ2VC1H330J	50V 33P	1	
C4059	ECQV1H104JL3	50V 0.1U	1	
C4060	ECJ2VC1H330J	50V 33P	1	
C4061	F1H1C104A008	16V 0.1U	1	
C4062	F2A1A471A550	10V 470U	1	
C4063	F2A1C220B173	16V 22P	1	
C4064	F2A1C220B173	16V 22P	1	
C4065	F1H1C104A008	16V 0.1U	1	
C4067	F2A1E2210050	25V 220U	1	
C4070	F2A1A471A550	10V 470U	1	
C4072	F2A1C221A637	16V 220U	1	
C4082	F1J1H102A666	50V 100P	1	
C4083	F1J1H102A666	50V 100P	1	
C4092	F2A1C471A637	16V 470P	1	
C4902	F1H1C104A008	16V 0.1U	1	
C4903	F2A0J470A599	6.3V 47U	1	
C4904	F1H1C104A042	16V 0.1U	1	
C7301	F1H1C104A042	16V 0.1U	1	EC,EC1
C7301	F1H1H1030006	50V 0.01U	1	EG
C7302	F1J1H102A666	50V 100P	1	EC,EC1
C7303	F2A0J101A825	6.3V 100U	1	EG,EC,EC1
C7304	F1H1C104A042	16V 0.1U	1	EG
C7305	F2A0J101A825	6.3V 100U	1	EC,EC1
C7307	ECJ1VC1H100D	50V 10P	1	EC,EC1
C7308	ECJ1VC1H100D	50V 10P	1	EC,EC1
C7309	ECJ1VB1H152K	50V 1500P	1	EG
C7309	F1H1H1010005	50V 100P	1	EC,EC1
C7310	ECJ1VB1H152K	50V 1500P	1	EG
C7310	F1H1H1010005	50V 100P	1	EC,EC1
C7311	F1H1H1020005	50V 0.001U	1	EC,EC1
C7314	F1H1H330A736	50V 33P	1	EC,EC1
C7315	ECJ1VB1A474K	10V 0.47U	1	EG
C7316	F1H1H472A219	50V 4.7U	1	EG
C7317	F2A0J470A245	6.3V 47U	1	EG,EC,EC1
C7319	F1H1C104A042	16V 0.1U	1	EC,EC1
C7324	F1H1C104A042	16V 0.1U	1	EC,EC1
C7324	F1H1H1030006	50V 0.01U	1	EG
C7325	F1H1H1030006	50V 0.01U	1	EG
C7326	ECJ1VB1A474K	10V 0.47U	1	EG
C7327	ECJ1VB1H123K	50V 0.012U	1	EG
C7328	ECJ1VC1H681J	50V 680P	1	EG
C7330	D0GB822JA057	1/10W 8.2K	1	EC,EC1
C7330	ECJ1VC1H681J	50V 680P	1	EG
C7331	ECJ1VB1H123K	50V 0.012U	1	EG
C7332	F1H1C104A042	16V 0.1U	1	EC,EC1
C7333	ECJ1VB1A474K	10V 0.47U	1	EG
C7333	F1H1C104A042	16V 0.1U	1	EC,EC1
C7334	F2A1H2R2A234	50V 2.2U	1	EC,EC1
C7335	F1H1C104A042	16V 0.1U	1	EC,EC1
C7335	F1H1H1030006	50V 0.01U	1	EG
C7336	F1H1C104A042	16V 0.1U	1	EG
C7337	ECJ1VB1A474K	10V 0.47U	1	EG
C7338	ECJ1VB1A474K	10V 0.47U	1	EG
C7339	F1H1H9R0A735	50V 9P	1	EG
C7340	F1H1C104A042	16V 0.1U	1	EG
C7401	F2A1C471A628	16V 470U	1	
C7404	ECJ1VB1A105K	10V 1U	1	
C7405	F2A1A2210063	10V 220U	1	
C7406	ECJ1VB1A105K	10V 1U	1	
C7408	F1H1H1020005	50V 0.001U	1	
C7409	F1H1H1020005	50V 0.001U	1	
C7410	F1H1H1020005	50V 0.001U	1	
C7412	ECJ1VB1A105K	10V 1U	1	
C7413	ECJ1VB1A105K	10V 1U	1	
C7415	F1K1C105A026	16V 1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7417	F1H1C104A042	16V 0.1U	1	
C7439	F1H1C104A042	16V 0.1U	1	
C7449	F1H1H1020005	50V 0.001U	1	
C7501	F1J0J475A008	6.3V 4.7U	1	
C7502	F1H1H1010005	50V 100P	1	
C7503	F1J0J475A008	6.3V 4.7U	1	
C7504	F1H1C104A042	16V 0.1U	1	
C7506	ECJ1VC1H221J	50V 220P	1	
C7507	F1H1C104A042	16V 0.1U	1	
C7508	ECJ1VC1H221J	50V 220P	1	
C7509	F1H1H104A748	50V 0.1U	1	
C7510	F1H1C104A042	16V 0.1U	1	
C7511	F1H1C104A042	16V 0.1U	1	
C7512	F1H1C104A042	16V 0.1U	1	
C7514	F1H1H1030006	50V 0.01U	1	
C7516	ECJ1VC1H180J	50V 18P	1	
C7517	ECJ1VC1H180J	50V 18P	1	
C7518	ECJ1VC1H220J	50V 22P	1	
C7519	ECJ1VC1H180J	50V 18P	1	
C7520	F1H1C104A042	16V 0.1U	1	
C7521	F2A0J470A824	6.3V 47P	1	
C7522	F1H1H1010005	50V 100P	1	
C7523	ECJ1VB1A105K	10V 1U	1	
C7524	F1H1C104A042	16V 0.1U	1	
C7528	F1H0J1050012	6.3V 1U	1	
C7531	ECJ1VC1H100D	50V 10P	1	
C7532	ECJ1VC1H100D	50V 10P	1	
C7533	ECJ1VC1H100D	50V 10P	1	
C7534	F1H1H1030006	50V 0.01U	1	
C7535	ECJ1VC1H100D	50V 10P	1	
C7541	ECJ1VC1H470J	50V 47P	1	
C7542	F1H1C104A042	16V 0.1U	1	
C7543	ECJ1VC1H470J	50V 47P	1	
C7544	F1H1C104A042	16V 0.1U	1	
C7546	F1H0J1050012	6.3V 1U	1	
C7554	F1H1H1030006	50V 0.01U	1	
C7556	F1H1H1020005	50V 0.001U	1	
C7557	F1H1H1020005	50V 0.001U	1	
C7558	F1H1H1020005	50V 0.001U	1	
C7565	F2A1C2210095	16V 220P	1	
C7569	ECQB1H392KF3	50V 3900P	1	
C7570	F2A1V560A387	35V 56U	1	
C7571	F2A1H100A454	50V 10U	1	
C7572	F2A1C121A453	16V 120P	1	
C7573	F2A1H100B034	50V 10U	1	
C7578	F2A0J470A824	6.3V 47P	1	
C7584	F4D55473A013	5.5V 0.047U	1	
C7585	F2A1A101A864	10V 100U	1	
C7587	F1H0J1050012	6.3V 1U	1	
C7592	F2A0J470A824	6.3V 47P	1	
C7801	F2A0J470A824	6.3V 47P	1	
C7802	F1H1H1030006	50V 0.01U	1	
C7803	F2A1H1R0B032	50V 1U	1	
C7804	F1H1H1030006	50V 0.01U	1	
C7806	F2A1C100A234	16V 10P	1	EC,EC1
C7809	F2A0J470A824	6.3V 47P	1	
C7810	F1H1H1030006	50V 0.01U	1	EG,EC,EC1
C7811	F2A0J470A824	6.3V 47P	1	
C7812	F1H1H1030006	50V 0.01U	1	
C7813	F1H1H222A219	50V 2200P	1	EG,EC,EC1
C7814	ECJ1VC1H390J	50V 39P	1	EB
C7815	ECJ1VC1H390J	50V 39P	1	EB
C7815	ECJ1VC1H680J	50V 68P	1	EG,EC,EC1
C7816	F1H1C104A042	16V 0.1U	1	
C7817	F1H1C104A042	16V 0.1U	1	EG
C7819	F2A0J470A824	6.3V 47P	1	EG
C7820	F1H1H222A219	50V 2200P	1	
C7821	F1H1H2710007	50V 270P	1	
C7822	ECJ2VC1H681J	50V 680P	1	EC,EC1
C7823	ECJ1VC1H220J	50V 22P	1	
C7824	ECJ2VC1H220J	50V 22P	1	
C7826	F1H1H222A219	50V 2200P	1	
C7827	ECJ1VC1H221J	50V 220P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C7828	ECJ1VC1H680J	50V 68P	1	EC,EC1
C7829	ECJ1VC1H680J	50V 68P	1	EC,EC1
C7830	ECJ1VC1H680J	50V 68P	1	EG,EC,EC1
D1502	MAZ40390HF	DIODE	1	
D1504	B0JCPD000021	DIODE	1	
D3901	MA2C165001VT	DIODE	1	
D4005	MA3Z142D0LG	DIODE	1	
D4006	MA3Z142D0LG	DIODE	1	
D7501	B0BA03600021	DIODE	1	
D7502	B0JAMG000031	DIODE	1	
D7504	MAZ4220NLF	DIODE	1	
D7505	B0AADM000003	DIODE	1	
D7506	B0AADM000003	DIODE	1	
D7507	B0JAMD000026	DIODE	1	
D7508	MAZ4180NHF	DIODE	1	
D7509	MA2C723001VT	DIODE	1	
D7510	MA2C165001VT	DIODE	1	
D7511	B0ACCK000005	DIODE	1	
D7801	B0BA03000015	DIODE	1	
D7802	MA2C72300F	DIODE	1	EG
D7803	MAZ4051NMF	DIODE	1	EG
DP7501	A2BB00000163	FL DISPLAY	1	
IC1501	C0EBE0000550	IC	1	
IC1506	C0DAEYH00002	IC	1	
IC1508	C0DBAYY00219	IC	1	
IC1510	C0DBEHE00005	IC	1	
IC1520	C0CBCDC00052	IC	1	
IC1521	C0CBCBD00048	IC	1	
IC3001	C1AB00002379	IC	1	
IC4001	C0DBAHD00013	IC	1	
IC4009	C0ABBB000216	IC	1	
IC4012	C0ABBB000230	IC	1	
IC4901	B3ZAZ0000017	IC	1	
IC7301	C0ZBZ0001081	IC	1	EG
IC7301	C1AB00002225	IC	1	EC,EC1
IC7302	C0EBH0000454	IC	1	EC,EC1
IC7401	C0CBCYG00004	IC	1	
IC7402	C0CBCDC00052	IC	1	
IC7403	C0CBCDC00052	IC	1	
IC7404	RFKFM6016KT	IC	1	EXCEPT EB
IC7404	RFKFM6016K	IC	1	EB
IC7501	C2CBJG000738	IC	1	
IC7503	C5HBZHC00001	IC	1	
IC7504	C0HBB0000057	IC	1	
IC7801	C0DBGYY00033	IC	1	EG
IP1501	ERBSE3R00U	IC PROTECTOR	1	⚠
IP7501	K5H751Z00003	IC PROTECTOR	1	⚠
IP7502	K5H751Z00003	IC PROTECTOR	1	⚠
IR7501	B3RAD0000137	REMOTE SENSOR	1	
JK3001	K2HE109B0001	JACK,AV OUT	1	
JK3901	K1FB242B0007	JACK,AV2	1	
JK3903	K2HA304B0007	JACK,COMPONENT VIDEO OUT	1	
K3004	D0YBR0000020	1/10W 0	1	
K3005	D0YBR0000020	1/10W 0	1	
K3006	D0YBR0000020	1/10W 0	1	
K3007	D0YBR0000020	1/10W 0	1	
K4001	D0YBR0000020	1/10W 0	1	
K4002	D0YBR0000020	1/10W 0	1	
K7303	D0YBR0000020	1/10W 0	1	EC,EC1
K7306	D0YBR0000020	1/10W 0	1	EG
K7308	D0YBR0000020	1/10W 0	1	EG
K7503	D0YBR0000020	1/10W 0	1	
K7506	D0YBR0000020	1/10W 0	1	
K7509	D0YBR0000020	1/10W 0	1	
K7513	D0YBR0000020	1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
K7516	D0YBR0000020	1/10W 0	1	
K7517	D0YBR0000020	1/10W 0	1	
K7802	D0YBR0000020	1/10W 0	1	
K7804	F1H1H330A736	50V 33P	1	
K7806	D0YBR0000020	1/10W 0	1	
K7807	D0YBR0000020	1/10W 0	1	
K7808	D0YBR0000020	1/10W 0	1	
K7809	D0YBR0000020	1/10W 0	1	EG
L1501	G0A100HA0023	COIL 10UH	1	
L1502	G0A150ZA0041	COIL 15UH	1	
L1504	G0A220GA0026	COIL 22UH	1	
L1505	G0A100HA0023	COIL 10UH	1	
L4901	G0C220JA0019	COIL 22UH	1	
L7303	G0C1R0JA0019	COIL 1UH	1	EC,EC1
L7304	G0C3R9JA0019	COIL 3.9UH	1	EC,EC1
L7304	G0C470JA0019	COIL 47UH	1	EG
L7501	G0C390JA0055	COIL 39UH	1	
L7502	G0C220JA0019	COIL 22UH	1	
L7801	G0C100JA0019	COIL 10UH	1	EG
L7802	G1CR56JA0020	COIL	1	
L7803	G1CR56JA0020	COIL	1	
LB1501	D0YBR0000020	1/10W 0	1	
LB1502	J0JKB0000003	COIL	1	
LB1503	J0JKB0000003	COIL	1	
LB1504	J0JKB0000003	COIL	1	
LB1505	D0YBR0000020	1/10W 0	1	
LB1506	J0JKB0000003	COIL	1	
LB1507	J0JHC0000032	COIL	1	
LB1508	J0JHC0000048	FILTER	1	
LB1510	J0JKB0000003	COIL	1	
LB3001	J0JGC0000020	COIL	1	
LB3002	J0JGC0000020	COIL	1	
LB3003	J0JGC0000020	COIL	1	
LB3006	J0JBC0000011	COIL	1	
LB3008	J0JBC0000011	COIL	1	
LB3907	J0JBC0000011	COIL	1	
LB3908	J0JBC0000011	COIL	1	
LB3911	J0JGC0000020	COIL	1	
LB3912	J0JBC0000011	COIL	1	
LB3913	J0JBC0000011	COIL	1	
LB7301	J0JCC0000124	COIL	1	EC,EC1
LB7302	J0JCC0000124	COIL	1	EC,EC1
LB7303	J0JCC0000080	COIL	1	EC,EC1
LB7304	J0JHC0000032	COIL	1	EG,EC,EC1
LB7305	J0JCC0000080	COIL	1	EC,EC1
LB7402	J0JKB0000012	COIL	1	
LB7403	J0JHC0000032	COIL	1	
LB7404	J0JKB0000012	COIL	1	
LB7405	J0JKB0000012	COIL	1	
LB7406	J0JDC0000092	COIL	1	
LB7407	J0JKB0000003	COIL	1	
LB7408	J0JGC0000020	COIL	1	
LB7409	J0JKB0000003	COIL	1	
LB7410	J0JGC0000020	COIL	1	
LB7411	J0JCC0000164	COIL	1	
LB7412	J0JCC0000164	COIL	1	
LB7413	J0JCC0000164	COIL	1	
LB7414	J0JCC0000164	COIL	1	
LB7415	J0JCC0000103	COIL	1	
LB7416	J0JCC0000164	COIL	1	
LB7417	J0JCC0000103	COIL	1	
LB7418	J0JCC0000103	COIL	1	
LB7419	J0JCC0000103	COIL	1	
LB7420	J0JCC0000164	COIL	1	
LB7421	J0JCC0000103	COIL	1	
LB7422	J0JKB0000012	COIL	1	
LB7509	J0JCC0000060	COIL	1	
LB7801	J0JHC0000032	COIL	1	
LB7802	J0JHC0000032	COIL	1	
LB7803	J0JHC0000032	COIL	1	
LB7804	J0JCC0000103	COIL	1	EG,EC,EC1

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
LB7805	J0JCC0000103	COIL	1	
P1501	K1KA15A00118	CONNECTOR(15P)	1	
P1503	K1KA04AA0180	CONNECTOR(4P)	1	
P7402	K1KA88A00002	CONNECTOR(88P)	1	
P7412	K1KA11AA0031	CONNECTOR(11P)	1	
P7413	K1KA10AA0031	CONNECTOR(10P)	1	
P7501	K1KA10A00258	CONNECTOR(10P)	1	
P7502	K1KA03AA0301	CONNECTOR(3P)	1	
Q1501	B1DHDC000027	TRANSISTOR	1	
Q1502	2SD1819A0L	TRANSISTOR	1	
Q1508	B1DHDD000029	TRANSISTOR	1	
Q1509	B1DHED000008	TRANSISTOR	1	
Q4006	2SD132800L	TRANSISTOR	1	
Q4007	2SD132800L	TRANSISTOR	1	
Q4008	2SD132800L	TRANSISTOR	1	
Q4009	2SD132800L	TRANSISTOR	1	
Q4060	2SD1819A0L	TRANSISTOR	1	
Q7403	2SD1819A0L	TRANSISTOR	1	
Q7501	2SB1218A0L	TRANSISTOR	1	
Q7502	2SD1819A0L	TRANSISTOR	1	
Q7503	2SB1218A0L	TRANSISTOR	1	
Q7504	2SD1819A0L	TRANSISTOR	1	
Q7505	2SD1819A0L	TRANSISTOR	1	
Q7509	2SD0601A0L	TRANSISTOR	1	
Q7510	2SC43910R1VT	TRANSISTOR	1	
Q7511	2SB0709A0L	TRANSISTOR	1	
Q7514	2SD0601A0L	TRANSISTOR	1	
Q7515	2SD1819A0L	TRANSISTOR	1	
Q7516	2SD1819A0L	TRANSISTOR	1	
Q7517	2SD1819A0L	TRANSISTOR	1	
Q7802	2SD1819A0L	TRANSISTOR	1	EG
Q7803	2SD1819A0L	TRANSISTOR	1	EG
QR1501	B1GBCFNN0009	TRANSISTOR	1	
QR1502	B1GBCFNN0009	TRANSISTOR	1	
QR1503	B1GBCFNN0009	TRANSISTOR	1	
QR1504	B1GBCFNN0009	TRANSISTOR	1	
QR4002	B1GDCFJJ0008	TRANSISTOR	1	
QR7401	B1GBCFNN0009	TRANSISTOR	1	
QR7402	B1GDCFLL0012	TRANSISTOR	1	
QR7503	B1GBCFNN0009	TRANSISTOR	1	
QR7504	B1GBCFNN0009	TRANSISTOR	1	
QR7507	B1GBCFNA0010	TRANSISTOR	1	
QR7508	B1GBCFJN0009	TRANSISTOR	1	
R1502	D0GB103JA057	1/10W 10K	1	
R1503	D0GB331JA057	1/10W 330	1	
R1505	D0GB823JA057	1/10W 82K	1	
R1506	D0GB222JA057	1/10W 2.2K	1	
R1507	D0GB822JA057	1/10W 8.2K	1	
R1509	ERJ3RBD393V	1/16W 39K	1	
R1510	ERJ3RBD113V	1/16W 11K	1	
R1511	ERJ3RBD152V	1/16W 1.5K	1	
R1518	D0GB223JA057	1/10W 22K	1	
R1519	D0GB223JA057	1/10W 22K	1	
R1522	D0GB472JA057	1/10W 4.7K	1	
R1523	D1BDR027A101	0.027U	1	
R1524	ERJ3RBD821V	1/16W 820	1	
R1525	ERJ3RBD103V	1/16W 10K	1	
R1526	ERJ3RBD332V	1/16W 3.3K	1	
R1528	D0GB333JA057	1/10W 33K	1	
R1535	ERJ3RBD103V	1/16W 10K	1	
R1536	ERJ3RBD273V	1/16W 27K	1	
R1537	ERJ3RBD392V	1/16W 3.9K	1	
R3002	D0GB102JA057	1/10W 1K	1	
R3005	D0GB102JA057	1/10W 1K	1	
R3007	D0GB330JA057	1/10W 33	1	
R3037	D0GB104JA057	1/10W 100K	1	
R3055	D0GB750JA057	1/10W 75	1	
R3057	D0GB750JA057	1/10W 75	1	
R3059	D0GB750JA057	1/10W 75	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3901	D1BB75R0A010	2W 75	1	
R3902	D1BB75R0A010	2W 75	1	
R3903	D1BB75R0A010	2W 75	1	
R3905	D0GB153JA057	1/10W 15K	1	
R3906	D0GB223JA057	1/10W 22K	1	
R3912	D0GB103JA057	1/10W 10K	1	
R3913	D0GB103JA057	1/10W 10K	1	
R3914	D0GB471JA057	1/10W 470	1	
R3918	D0GB471JA057	1/10W 470	1	
R3919	D1BB75R0A010	2W 75	1	
R3920	D1BB75R0A010	2W 75	1	
R3921	D1BB75R0A010	2W 75	1	
R3922	D0GB471JA057	1/10W 470	1	
R3923	D0GB471JA057	1/10W 470	1	
R3924	ERDS2TJ471T	1/4W 470	1	
R3925	D1BB75R0A010	2W 75	1	
R3926	D1BB75R0A010	2W 75	1	
R3927	D1BB75R0A010	2W 75	1	
R3928	D0GB750JA057	1/10W 75	1	
R3929	D0GB750JA057	1/10W 75	1	
R3930	D0GB750JA057	1/10W 75	1	
R3932	D0GB750JA057	1/10W 75	1	
R3934	D0GB750JA057	1/10W 75	1	
R3935	D0GB750JA057	1/10W 75	1	
R3975	D0GB101JA057	1/10W 100	1	
R3976	D0GB101JA057	1/10W 100	1	
R3983	D0GB103JA057	1/10W 10K	1	
R3984	D0GB103JA057	1/10W 10K	1	
R3987	D0GB473JA057	1/10W 47K	1	
R3988	D0GB102JA057	1/10W 1K	1	
R3989	D0GB102JA057	1/10W 1K	1	
R3990	D0GB473JA057	1/10W 47K	1	
R3991	D0GB473JA057	1/10W 47K	1	
R3992	D0GB102JA057	1/10W 1K	1	
R3993	D0GB102JA057	1/10W 1K	1	
R3994	D0GB473JA057	1/10W 47K	1	
R4003	D0GB331JA057	1/10W 330	1	
R4005	D0GB331JA057	1/10W 330	1	
R4006	D0GB823JA057	1/10W 82K	1	
R4010	D0GB473JA057	1/10W 47K	1	
R4011	D0GB473JA057	1/10W 47K	1	
R4013	D0GB823JA057	1/10W 82K	1	
R4046	D0HB912ZA002	1/10W 9.1K	1	
R4047	D0HB912ZA002	1/10W 9.1K	1	
R4055	D0HB153ZA002	1/10W 15K	1	
R4057	D0HB153ZA002	1/10W 15K	1	
R4066	D0HB103ZA002	1/10W 10K	1	
R4067	D0HB103ZA002	1/10W 10K	1	
R4071	D0GB473JA057	1/10W 47K	1	
R4074	D0GB473JA057	1/10W 47K	1	
R4076	D0GB821JA057	1/10W 820	1	
R4077	D0GB101JA057	1/10W 100	1	
R4078	D0GB272JA057	1/10W 2.7K	1	
R4079	D0GB272JA057	1/10W 2.7K	1	
R4080	D0GB101JA057	1/10W 100	1	
R4081	D0GB821JA057	1/10W 820	1	
R4088	D0GB272JA057	1/10W 2.7K	1	
R4089	D0GB272JA057	1/10W 2.7K	1	
R4090	D0GB121JA057	1/10W 120	1	
R4093	D0GB121JA057	1/10W 120	1	
R4094	D0GB223JA057	1/10W 22K	1	
R4102	D0GB103JA057	1/10W 10K	1	
R4104	D0GB223JA057	1/10W 22K	1	
R4105	D0GB473JA057	1/10W 47K	1	
R7303	D0GB473JA057	1/10W 47K	1	EC,EC1
R7304	D0GB101JA057	1/10W 100	1	EC,EC1
R7305	ERJ3GEYF101V	1/10W 100	1	EG
R7306	D1BB39010002	2W 390	1	EG
R7307	D0GB472JA057	1/10W 4.7K	1	EG
R7307	D0YBR0000020	1/10W 0	1	EC,EC1
R7308	D0GB752JA057	1/10W 7.5K	1	EG
R7311	ERJ3GEYF221V	1/10W 220	1	EC,EC1
R7312	ERJ3GEYF221V	1/10W 220	1	EC,EC1

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7312	ERJ3GEYF682V	1/10W 6.8K	1	EG
R7313	ERJ3GEYF221V	1/10W 220	1	EC,EC1
R7313	ERJ3GEYF682V	1/10W 6.8K	1	EG
R7318	D1BB33010002	2W 330	1	EG
R7320	D1BB33010002	2W 330	1	EG
R7321	D0GB562JA057	1/10W 5.6K	1	EG
R7322	D0YBR0000020	1/10W 0	1	EC,EC1
R7323	D0GB562JA057	1/10W 5.6K	1	EG
R7324	D0GB221JA057	1/10W 220	1	EG,EC,EC1
R7325	D0GB221JA057	1/10W 220	1	EG,EC,EC1
R7326	D0GB122JA057	1/10W 1.2K	1	EG
R7326	D0YBR0000020	1/10W 0	1	EC,EC1
R7401	D0GB104JA057	1/10W 100K	1	
R7402	D0GB103JA057	1/10W 10K	1	
R7410	D0GB821JA057	1/10W 820	1	
R7411	D0GB472JA057	1/10W 4.7K	1	
R7412	D0GB472JA057	1/10W 4.7K	1	
R7414	D0GB472JA057	1/10W 4.7K	1	
R7444	ERJ3RED300V	1/16W 30	1	
R7445	ERJ3RBD682V	1/16W 6.8K	1	
R7446	ERJ3RBD202V	1/16W 2K	1	
R7501	D0GB102JA057	1/10W 1K	1	
R7502	D0GB392JA057	1/10W 3.9K	1	
R7503	D0GB104JA057	1/10W 100K	1	
R7504	D0GB102JA057	1/10W 1K	1	
R7505	D1BB1502A010	2W 1.5K	1	
R7506	D0GB104JA057	1/10W 100K	1	
R7507	D1BB15010002	2W 150	1	
R7508	ERJ3GEYF562V	1/10W 5.6K	1	
R7509	D0GB331JA057	1/10W 330	1	
R7510	D0GB331JA057	1/10W 330	1	
R7513	D0GB101JA057	1/10W 100	1	
R7514	D0GB101JA057	1/10W 100	1	
R7515	D0GB101JA057	1/10W 100	1	
R7516	D0GB220JA057	1/10W 22	1	
R7517	D0GB101JA057	1/10W 100	1	
R7519	D0GB472JA057	1/10W 4.7K	1	
R7520	D0GB103JA057	1/10W 10K	1	
R7522	D0GB101JA057	1/10W 100	1	
R7524	D0GB101JA057	1/10W 100	1	
R7525	D0GB474JA057	1/10W 470K	1	
R7526	D0GB101JA057	1/10W 100	1	
R7527	D0GB101JA057	1/10W 100	1	
R7528	D0GB101JA057	1/10W 100	1	
R7529	D0GB101JA057	1/10W 100	1	
R7530	ERJ3RBD104V	1/16W 100K	1	
R7531	D0GB104JA057	1/10W 100K	1	
R7532	D0GB563JA057	1/10W 56K	1	
R7533	D0YBR0000020	1/10W 0	1	
R7534	D0GB103JA057	1/10W 10K	1	
R7535	D0GB101JA057	1/10W 100	1	
R7536	D0GB101JA057	1/10W 100	1	
R7537	D0GB101JA057	1/10W 100	1	
R7538	D0GB102JA057	1/10W 1K	1	
R7539	D0GB472JA057	1/10W 4.7K	1	
R7540	D0GB101JA057	1/10W 100	1	
R7542	D0GB101JA057	1/10W 100	1	
R7543	D0GB103JA057	1/10W 10K	1	
R7544	D0GB473JA057	1/10W 47K	1	
R7548	D0GB472JA057	1/10W 4.7K	1	
R7549	D0GB472JA057	1/10W 4.7K	1	
R7550	D0GB223JA057	1/10W 22K	1	
R7552	D0GB104JA057	1/10W 100K	1	
R7553	D0YBR0000020	1/10W 0	1	
R7557	D0GB101JA057	1/10W 100	1	
R7558	D0GB202JA057	1/10W 2K	1	
R7559	D0GB202JA057	1/10W 2K	1	
R7560	D0GB101JA057	1/10W 100	1	
R7561	D0GB473JA057	1/10W 47K	1	
R7562	D0GB101JA057	1/10W 100	1	
R7563	D0GB472JA057	1/10W 4.7K	1	
R7565	D0GB101JA057	1/10W 100	1	
R7567	D0GB101JA057	1/10W 100	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R7568	D0GB473JA057	1/10W 47K	1	
R7570	D0GB103JA057	1/10W 10K	1	
R7571	D0GB153JA057	1/10W 15K	1	
R7572	D0GB101JA057	1/10W 100	1	
R7573	D0GB273JA057	1/10W 27K	1	
R7574	D0GB223JA057	1/10W 22K	1	
R7575	D0GB101JA057	1/10W 100	1	
R7576	D0GB102JA057	1/10W 1K	1	
R7577	D0GB103JA057	1/10W 10K	1	
R7578	D0GB224JA057	1/10W 220K	1	
R7580	D0GB225JA057	1/10W 2200K	1	
R7581	D0GB472JA057	1/10W 4.7K	1	
R7582	D0GB104JA057	1/10W 100K	1	
R7583	D0GB101JA057	1/10W 100	1	
R7587	D0GB103JA057	1/10W 10K	1	
R7588	D0GB104JA057	1/10W 100K	1	
R7589	D0GB221JA057	1/10W 220	1	
R7597	D0GB822JA057	1/10W 8.2K	1	
R7598	D0GB822JA057	1/10W 8.2K	1	
R7599	D0GB822JA057	1/10W 8.2K	1	
R7600	D0GB103JA057	1/10W 10K	1	
R7601	D0GB102JA057	1/10W 1K	1	
R7606	ERJ3GEYF393V	1/10W 39K	1	
R7607	D0GB331JA057	1/10W 330	1	
R7608	ERJ3GEYF433V	1/10W 43K	1	
R7612	D0GB562JA057	1/10W 5.6K	1	
R7614	D0GB470JA057	1/10W 47	1	
R7615	D0GB473JA057	1/10W 47K	1	
R7617	ERDS2TJ271T	1/4W 270	1	
R7621	D0GB104JA057	1/10W 100K	1	
R7623	D0GB181JA057	1/10W 180	1	
R7639	D0GB272JA057	1/10W 2.7K	1	
R7640	D0GB272JA057	1/10W 2.7K	1	
R7642	D0GB562JA057	1/10W 5.6K	1	
R7644	D0GB562JA057	1/10W 5.6K	1	
R7648	ERDS2TJ470T	1/4W 47	1	
R7660	D0GB103JA057	1/10W 10K	1	
R7668	D0GB101JA057	1/10W 100	1	
R7669	D0GB472JA057	1/10W 4.7K	1	
R7801	D0GB562JA057	1/10W 5.6K	1	EC,EC1
R7802	ERDS2TJ102T	1/4W 1K	1	
R7804	D0GB471JA057	1/10W 470	1	
R7805	D0GB471JA057	1/10W 470	1	
R7811	D0GB472JA057	1/10W 4.7K	1	
R7812	ERJ3GEYJ155V	1/10W 30	1	EG
R7813	D0GB473JA057	1/10W 47K	1	EG
R7814	D0GB473JA057	1/10W 47K	1	EG
R7815	D0GB334JA057	1/10W 330K	1	EG
R7816	D0GB563JA057	1/10W 56K	1	EG
S7501	EVQ11A04M	SWITCH,	1	
S7503	EVQ11A04M	SWITCH,	1	
S7504	EVQ11A04M	SWITCH,	1	
S7506	EVQ11A04M	SWITCH,	1	
S7507	EVQ11A04M	SWITCH,	1	
S7508	EVQ11A04M	SWITCH,	1	
T7501	G4D1A0000117	TRANSFORMER	1	
TU7801	ENGF7703KF	TV TUNER	1	EB
TU7801	ENGF7704KF	TV TUNER	1	EG
TU7801	ENGF7705KF	TUNER	1	EC,EC1
W501	D0YBR0000020	1/10W 0	1	
W701	D0YBR0000020	1/10W 0	1	
W702	D0YBR0000020	1/10W 0	1	
W703	D0YBR0000020	1/10W 0	1	
W704	D0YBR0000020	1/10W 0	1	
W705	D0YBR0000020	1/10W 0	1	
W707	D0YBR0000020	1/10W 0	1	
W708	D0YBR0000020	1/10W 0	1	
W709	D0YBR0000020	1/10W 0	1	
W710	D0YBR0000020	1/10W 0	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
W711	D0YBR0000020	1/10W 0	1	
W712	D0YBR0000020	1/10W 0	1	
W713	D0YBR0000020	1/10W 0	1	
W714	D0YBR0000020	1/10W 0	1	
W715	D0YBR0000020	1/10W 0	1	
W716	D0YBR0000020	1/10W 0	1	
W717	D0YBR0000020	1/10W 0	1	
W718	D0YBR0000020	1/10W 0	1	
W719	D0YBR0000020	1/10W 0	1	
W720	D0YBR0000020	1/10W 0	1	
W721	D0YBR0000020	1/10W 0	1	
W722	D0YBR0000020	1/10W 0	1	
W723	D0YBR0000020	1/10W 0	1	
W724	D0YBR0000020	1/10W 0	1	
W725	D0YBR0000020	1/10W 0	1	
W726	ERJ6GEY0R00Z	1/8W 0	1	
W730	ERJ6GEY0R00Z	1/8W 0	1	
W731	ERJ6GEY0R00Z	1/8W 0	1	
W734	ERJ6GEY0R00Z	1/8W 0	1	
W735	D0YBR0000020	1/10W 0	1	
W736	ERJ6GEY0R00Z	1/8W 0	1	
W737	ERJ6GEY0R00Z	1/8W 0	1	
W738	ERJ6GEY0R00Z	1/8W 0	1	
W739	ERJ6GEY0R00Z	1/8W 0	1	
W741	ERJ6GEY0R00Z	1/8W 0	1	
W742	ERJ6GEY0R00Z	1/8W 0	1	
W743	ERJ6GEY0R00Z	1/8W 0	1	
W744	D0YBR0000020	1/10W 0	1	
W745	ERJ6GEY0R00Z	1/8W 0	1	
W746	D0YBR0000020	1/10W 0	1	
W747	D0YBR0000020	1/10W 0	1	
W748	ERJ6GEY0R00Z	1/8W 0	1	
W749	ERJ6GEY0R00Z	1/8W 0	1	
X7501	H0D100500018	CRYSTAL OSCILLATOR	1	
X7502	H0A327200108	CRYSTAL OSCILLATOR	1	
ZB7501	RMN0872	FL HOLDER(A)	1	
ZB7502	RMN0873A	FL HOLDER B	1	
ZJ7401	K9ZZ00001279	EARTH PLATE	1	
ZJ7402	K9ZZ00001279	EARTH PLATE	1	
ZJ7403	K9ZZ00001279	EARTH PLATE	1	
ZJ7404	K9ZZ00001279	EARTH PLATE	1	
ZJ7405	K9ZZ00001279	EARTH PLATE	1	
ZJ7423	K9ZZ00001279	EARTH PLATE	1	
ZJ7501	K9ZZ00001279	EARTH PLATE	1	
■	VEP70187A	FRONT(L)P.C.B.	1	(RTL)
S7002	EVQ11A04M	SWITCH,	1	
■	VEP73146A	FRONT JACK P.C.B.	1	(RTL)
C3801	F1H1H1020005	50V 0.001U	1	
C3803	F1H1H1020005	50V 0.001U	1	
C3804	F1H1C104A042	16V 0.1U	1	
FC7001	REZD0019	WIRE	1	
JK3801	K2HA307A0009	JACK	1	
JK3802	K1CB104A0017	JACK	1	
JW3801	VWJ08H6074VV	FLAT CABLE(8P)	1	
LB3801	J0JBC0000011	COIL	1	
LB3802	J0JBC0000011	COIL	1	
LB3803	D0YBR0000020	1/10W 0	1	
LB3804	D0YBR0000020	1/10W 0	1	
LB3805	D0YBR0000020	1/10W 0	1	
R3801	D0GB750JA057	1/10W 75	1	
R3802	D0GB750JA057	1/10W 75	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R3803	D0GB750JA057	1/10W 75	1	
R3804	D0GB102JA057	1/10W 1K	1	
X7301	H0D245500016	CRYSTAL OSCILLATOR	1	EC,EC1
X7301	H0H400400006	CRYSTAL OSCILLATOR	1	EG
ZJ3801	K9ZZ00001279	EARTH PLATE	1	
ZJ3802	RMC0723	EARTH PLATE	1	
■	VEP71118A	POWER P.C.B.	1	(RTL)
C1120	ECQU2A683MLC	100V 0.068U	1	⚠
C1121	ECQU2A223MLC	100V 0.022U	1	⚠
C1122	ECKWNA102MEV	250V 1000P	1	⚠
C1123	ECKWNA102MEV	250V 1000P	1	⚠
C1125	ECKWNA102MEV	250V 1000P	1	⚠
C1143	F2B2W4700003	450V 47U	1	
C1150	F2A1V6800002	35V 68P	1	
C1151	F1B3D102A011	2V 1000P	1	
C1152	ECJ2VC1H331J	50V 330P	1	
C1153	ECJGVB1H222K	50V 2200P	1	
C1154	ECJGVB1H102K	50V 1000P	1	
C1200	F1J1E104A081	25V 0.1U	1	
C1201	ECJ2VB1E473K	25V 0.047U	1	
C1270	F2A1C1820005	16V 1800P	1	
C1271	F2A1C1820005	16V 1800P	1	
C1272	F2A1C8210008	16V 820P	1	
C1401	F2A0J1220028	6.3V 1200P	1	
C1402	F2A0J3310059	6.3V 330U	1	
C1601	F2A1E4710061	25V 470U	1	
C1602	F1J1E104A081	25V 0.1U	1	
C1603	F1J1E104A081	25V 0.1U	1	
C1604	ECJ2YB1C474K	16V 0.47U	1	
C1605	ECJ2VC1H181J	50V 180P	1	
C1606	ECJGVB1H103K	50V 0.01U	1	
C1607	F2A1A6810022	10V 680P	1	
C1608	F1J1E104A081	25V 0.1U	1	
C1800	F2A1E4700048	25V 47U	1	
D1140	B0EDKT000009	DIODE	1	
D1141	B0HADV000001	DIODE	1	
D1151	B0HAGM000006	DIODE	1	
D1152	MAZ4100NMF	DIODE	1	
D1155	MAZ73000BC	DIODE	1	
D1156	MA2C165001VT	DIODE	1	
D1157	B0HADV000001	DIODE	1	
D1270	B0JBSG000048	DIODE	1	
D1400	B0JANE000037	DIODE	1	
D1601	B0JCPD000021	DIODE	1	
D1602	B0JCPD000021	DIODE	1	
D1701	MA22D3900L	DIODE	1	
D1702	MA22D3900L	DIODE	1	
D1703	MA22D3900L	DIODE	1	
D1800	MA2J11100L	DIODE	1	
F1101	K5D202BK0005	FUSE	1	⚠
IC1150	C0DACZH00017	IC	1	
IC1200	C0DAEMZ00001	IC	1	
IC1601	C0DBAZZ00132	IC	1	
K1128	ERJ6GEY0R00Z	1/8W 0	1	
L1120	G0B233D00001	COIL	1	⚠
L1121	G0B233D00001	COIL	1	⚠
L1270	G0A100K00003	COIL	1	
L1400	G0A100HA0023	COIL 10UH	1	
L1600	G0A100HA0023	COIL 10UH	1	
L1601	G0A100K00003	COIL	1	
LB1122	J0JKB0000003	COIL	1	
LB1123	J0JKB0000003	COIL	1	
LB1125	J0JHC0000048	FILTER	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
LB1126	ERJ6GEY0R00Z	1/8W 0	1	
LB1600	J0JHC0000048	FILTER	1	
P1101	K2AA2H000007	AC INLET	1	⚠
P1102	K1KB15AA0032	CONNECTOR(15P)	1	
Q1200	B3PBA0000454	TRANSISTOR	1	⚠
Q1600	B1DHED000008	TRANSISTOR	1	
QR1800	B1GDCFNN0002	TRANSISTOR	1	
QR1801	B1GBCFNN0004	TRANSISTOR	1	
R1122	ERG1SJ101E	1W 100	1	
R1150	ERJ6GEYJ180V	1/8W 18	1	
R1151	ERJ6GEYJ682V	1/8W 6.8K	1	
R1152	ERJ6GEYJ103V	1/8W 10K	1	
R1153	ERJ6GEYJ180V	1/8W 18	1	
R1154	ERJ6GEYG822V	1/8W 8.2K	1	
R1155	ERJ6GEYG471V	1/8W 470	1	
R1156	ERJ6GEYG223V	1/8W 22K	1	
R1157	ERJ6GEYG471V	1/8W 470	1	
R1158	ERX2SJR22E	2W 22	1	
R1200	ERJ6GEYG122V	1/8W 1.2K	1	
R1201	ERJ6GEYG822V	1/8W 8.2K	1	
R1205	ERJ6GEYJ224V	1/8W 220K	1	
R1206	ERJ6GEYG242V	1/8W 2.4K	1	
R1207	ERJ6GEYJ103V	1/8W 10K	1	
R1208	ERJ6GEYJ222V	1/8W 2.2K	1	
R1209	ERJ6GEYJ102V	1/8W 1K	1	
R1210	ERJ6GEYJ102V	1/8W 1K	1	
R1410	ERJ8GEY0R00V	1/4W 0	1	
R1601	D1BFR0240001	1/2W 0.024U	1	
R1602	ERJ6GEYJ513V	1/8W 51K	1	
R1603	ERJ6RBD561V	1/10W 560	1	
R1604	ERJ6RBD912V	1/10W 9.1K	1	
R1605	ERJ6RBD272V	1/10W 2.7K	1	
R1800	ERJ6GEYJ471V	1/8W 470	1	
R1801	ERJ6GEYJ104V	1/8W 100K	1	
R1802	ERJ6GEYJ472V	1/8W 4.7K	1	
R1803	ERJ6GEYJ103V	1/8W 10K	1	
T1150	ETS28BF236AD	POWER TRANSFORMER	1	⚠
VA1110	ERZV10D471C2	VARISTOR	1	⚠
ZA1103	EYF52BCY	FUSE HOLDER	1	
ZA1104	EYF52BCY	FUSE HOLDER	1	
ZA1105	K9ZZ00001279	EARTH PLATE	1	
ZA1106	K9ZZ00001279	EARTH PLATE	1	
ZA1107	K9ZZ00001279	EARTH PLATE	1	
ZA1150	VSC5603-A	HEAT SINK	1	
ZA1151	XYN3+J8FJ	SCREW	1	
ZA1270	VSC5606-A	HEAT SINK	1	
ZA1271	XYN3+J8FJ	SCREW	1	
■	VEP73150A	DV JACK/SD P.C.B.	1	(RTL)
C66801	F1H1H1030006	50V 0.01U	1	
C66802	F1H1A225A051	10V 22U	1	
LB66801	J0JHC0000032	COIL	1	
LB66802	J0JHC0000045	COIL	1	
P66801	K1NA09E00083	CONNECTOR(9P)	1	
P66803	K1FY104B0006	CONNECTOR(4P)	1	
P66804	K1KA16AA0699	CONNECTOR(16P)	1	
R66801	D0GB123JA057	1/10W 12K	1	
R66807	D0GB223JA057	1/10W 22K	1	
R66808	D0GB223JA057	1/10W 22K	1	
R66812	D0GB220JA057	1/10W 22	1	
R66814	D0GB220JA057	1/10W 22	1	
R66815	D0GB101JA057	1/10W 100	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
RX66801	EXB38V123JV	RESISTOR-RESISTOR	1	
RX66802	EXB38V220JV	RESISTOR-RESISTOR	1	
■	VEP73148A	HDMI P.C.B.	1	(RTL)
C56001	ECJ0EC1H221J	50V 220P	1	
C56103	ECJ0EB1A104K	10V 0.1U	1	
C56104	ECJ0EB1A104K	10V 0.1U	1	
C56105	ECJ0EB1A104K	10V 0.1U	1	
C56106	ECJ0EB1A104K	10V 0.1U	1	
C56107	ECJ0EB1A104K	10V 0.1U	1	
C56108	ECJ0EB1A104K	10V 0.1U	1	
C56109	ECJ0EB1A104K	10V 0.1U	1	
C56110	ECJ0EB1A104K	10V 0.1U	1	
C56111	ECJ0EB1A104K	10V 0.1U	1	
C56112	ECJ0EB1A104K	10V 0.1U	1	
C56113	ECJ0EB1A104K	10V 0.1U	1	
C56114	ECJ0EB1A104K	10V 0.1U	1	
C56115	ECJ0EB1A104K	10V 0.1U	1	
C56116	ECJ0EB1A104K	10V 0.1U	1	
C56117	ECJ0EB1A104K	10V 0.1U	1	
C56118	ECJ0EB1A104K	10V 0.1U	1	
C56119	ECJ0EB1A104K	10V 0.1U	1	
C56120	ECJ0EB1A104K	10V 0.1U	1	
C56121	ECJ0EB1A104K	10V 0.1U	1	
C56122	ECJ0EB1A104K	10V 0.1U	1	
C56123	ECJ0EB1A104K	10V 0.1U	1	
C56124	ECJ0EB1A104K	10V 0.1U	1	
C56125	ECJ0EB1A104K	10V 0.1U	1	
C56126	ECJ0EB1A104K	10V 0.1U	1	
C56127	ECJ0EB1A104K	10V 0.1U	1	
C56128	F1K0J106A003	6.3V 10U	1	
C56129	ECJ0EC1H221J	50V 220P	1	
C56130	ECJ1VB1A105K	10V 1U	1	
C56131	ECJ1VB1A105K	10V 1U	1	
C56133	ECJ1VB1A105K	10V 1U	1	
C56134	ECJ1VB1A105K	10V 1U	1	
C56135	ECJ0EB1A104K	10V 0.1U	1	
C56140	ECJ0EB1A104K	10V 0.1U	1	
D56101	MA2J72800L	DIODE	1	
FL56104	F1H0J1050025	FILTER	1	
FL56105	F1H0J1050025	FILTER	1	
FL56106	F1H0J1050025	FILTER	1	
FL56107	F1H0J1050025	FILTER	1	
FL56110	F1H0J1050025	FILTER	1	
IC56103	MN864702A	IC	1	
IC56104	C0CBCBC00174	IC	1	
IC56105	C0CBCDC00052	IC	1	
IC56106	C0DBEYY00016	IC	1	
IC56107	C0JBAB000604	IC	1	
L56101	J0MAB0000170	COIL	1	
L56102	J0MAB0000170	COIL	1	
L56103	J0MAB0000170	COIL	1	
L56104	J0MAB0000170	COIL	1	
LB56104	J0JCC0000119	COIL	1	
LB56105	J0JCC0000119	COIL	1	
LB56106	J0JCC0000119	COIL	1	
LB56107	J0JCC0000119	COIL	1	
LB56108	J0JHC0000032	COIL	1	
LB56109	J0JHC0000032	COIL	1	
LB56110	J0JHC0000032	COIL	1	
LB56111	J0JHC0000032	COIL	1	
LB56112	J0JHC0000032	COIL	1	
LB56113	J0JHC0000032	COIL	1	
LB56115	J0JHC0000032	COIL	1	
LB56116	J0JHC0000032	COIL	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
P56101	K1KB10A00124	CONNECTOR(10P)	1	
P56102	K1FA119E0004	JACK,HDMI	1	
P56103	K1KC30A00003	CONNECTOR(30P)	1	
Q56001	2SD1819A0L	TRANSISTOR	1	
Q56002	2SD1819A0L	TRANSISTOR	1	
Q56101	2SD1819A0L	TRANSISTOR	1	
Q56102	B1CFHA000002	TRANSISTOR	1	
Q56103	B1CFHA000002	TRANSISTOR	1	
Q56104	2SD1819A0L	TRANSISTOR	1	
Q56105	2SD1819A0L	TRANSISTOR	1	
R56001	ERJ2GEJ472X	1/16W 4.7K	1	
R56002	ERJ2GEJ473X	1/16W 47K	1	
R56003	ERJ2GEJ225X	1/16W 2200K	1	
R56004	ERJ2GEJ104X	1/16W 100K	1	
R56101	ERJ2GEJ220X	1/16W 22	1	
R56102	ERJ2GE0R00X	1/16W 0	1	
R56103	ERJ2GE0R00X	1/16W 0	1	
R56104	ERJ2GE0R00X	1/16W 0	1	
R56105	ERJ2GE0R00X	1/16W 0	1	
R56106	ERJ2GE0R00X	1/16W 0	1	
R56107	ERJ2GE0R00X	1/16W 0	1	
R56108	ERJ2GE0R00X	1/16W 0	1	
R56110	ERJ2GE0R00X	1/16W 0	1	
R56111	ERJ2GE0R00X	1/16W 0	1	
R56112	ERJ2GE0R00X	1/16W 0	1	
R56114	ERJ2GE0R00X	1/16W 0	1	
R56119	ERJ2GEJ330X	1/16W 33	1	
R56123	ERJ2GEJ511X	1/16W 510	1	
R56124	ERJ2GEJ103X	1/16W 10K	1	
R56125	ERJ2GEJ202X	1/16W 2K	1	
R56126	ERJ2GEJ202X	1/16W 2K	1	
R56127	ERJ2GEJ103X	1/16W 10K	1	
R56128	ERJ2GEJ202X	1/16W 2K	1	
R56129	ERJ2GEJ202X	1/16W 2K	1	
R56130	ERJ2GEJ273X	1/16W 27K	1	
R56131	ERJ2GEJ221X	1/16W 220	1	
R56132	ERJ2GEJ224X	1/16W 220K	1	
R56133	ERJ2GEJ104X	1/16W 100K	1	
R56135	ERJ2GEJ470X	1/16W 47	1	
R56137	ERJ2GE0R00X	1/16W 0	1	
R56138	ERJ2GE0R00X	1/16W 0	1	
R56140	ERJ2GEJ8R2X	1/16W 8.2	1	
R56142	ERJ2GEJ330X	1/16W 33	1	
R56143	ERJ2GEJ330X	1/16W 33	1	
R56144	ERJ2GEJ8R2X	1/16W 8.2	1	
R56145	ERJ2GEJ8R2X	1/16W 8.2	1	
R56146	ERJ2GEJ8R2X	1/16W 8.2	1	
R56147	ERJ2GEJ8R2X	1/16W 8.2	1	
R56148	ERJ2GEJ8R2X	1/16W 8.2	1	
R56149	ERJ2GEJ8R2X	1/16W 8.2	1	
R56150	ERJ2GEJ8R2X	1/16W 8.2	1	
R56158	ERJ2GEJ152X	1/16W 1.5K	1	
R56159	ERJ2GEJ332X	1/16W 3.3K	1	
R56160	ERJ2GEJ223X	1/16W 22K	1	
R56161	ERJ2GEJ470X	1/16W 47	1	
R56162	ERJ2GEJ103X	1/16W 10K	1	
R56163	ERJ2GEJ103X	1/16W 10K	1	
R56166	ERJ2GE0R00X	1/16W 0	1	
R56167	ERJ2GEJ102X	1/16W 1K	1	
RX56101	D1H8R0040009	RESISTOR-RESISTOR	1	
RX56102	D1H8R0040009	RESISTOR-RESISTOR	1	
VA56101	EZAEG2A50AX	FILTER	1	
VA56102	EZAEG2A50AX	FILTER	1	
VA56103	EZJZ0V80008B	FILTER	1	
VA56104	EZAEG2A50AX	FILTER	1	
VA56105	EZJZ0V80008B	FILTER	1	
VA56106	EZAEG2A50AX	FILTER	1	
VA56107	EZJZ0V80008B	FILTER	1	
VA56108	EZAEG2A50AX	FILTER	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
VA56109	EZJZ0V80008B	FILTER	1	
VA56110	EZAEG2A50AX	FILTER	1	
VA56111	EZJZ0V80008B	FILTER	1	
VA56112	EZAEG2A50AX	FILTER	1	
VA56113	EZAEG2A50AX	FILTER	1	
■	VEP70194A	ATAPI P.C.B.	1	(RTL)
P9801	K1KB40A00124	CONNECTOR(40P)	1	
P9802	K1MN40BA0173	CONNECTOR(40P)	1	
■		CASING/ACCESSORY/PACKING		
1	RHD30113	SCREW	2	(S)
1	RHD30113-1K	SCREW	2	(K)
2	RHD30119-L	SCREW	14	
3	RKM0552A-S	TOP CASE	1	(S) ⚠
3	RKM0552A-K	TOP CASE	1	(K) ⚠
4	RFKB79156HT	MAIN P.C.B.	1	(RTL)EX77EG
4	RFKB79156JT	MAIN P.C.B.	1	(RTL)EX77EC,EC1
4	RFKB79156K	MAIN P.C.B.	1	(RTL)EX77EB
4	RFKB79156TT	MAIN P.C.B.	1	(RTL)EX87EG
4	RFKB79156UT	MAIN P.C.B.	1	(RTL)EX87EC,EC1
4	RFKB79156X	MAIN P.C.B.	1	(RTL)EX87EB
4-1	RMC0625	TUNER END	1	
5	VEP70187A	FRONT(L)P.C.B.	1	(RTL)
6	VEP73146A	FRONT JACK P.C.B.	1	(RTL)
7	VEP71118A	POWER P.C.B.	1	(RTL)
8	VEP73150A	DV JACK/SD P.C.B.	1	(RTL)
9	VEP73148A	HDMI P.C.B.	1	(RTL)
10	VEP70194A	ATAPI P.C.B.	1	(RTL)
11	RHD30111-3	SCREW	16	
12	RHD30102-1	SCREW	2	
13	RMA2051	REAR ANGLE B	1	
14	RMA2047	FRONT ANGLE	1	
15	XSN3+4FJ	SCREW	2	
16	VMC1534	EARTH SPRING	2	
17	RHD30151	SCREW	2	
18	RMA2052	DRIVE SPACER	1	
19	RQLS0394	CAUTION LABEL	1	⚠
20	RSC0805	DIGITAL SHIELD	1	
21	RHD30152	HDD SCREW	4	
22	RMG0677-K	DAMPER	4	
23	RMN0874	HDD BRACKET	1	
24	RFKV0092HDK	HDD 160GB	1	EX77
24	RFKV0093HDK	HDD 250GB	1	EX87
25	RMX0382	HDD CUSHION	4	
26	VEE0Z41	WIRE WITH CONNECTOR	1	
27	RGR0365J-P1	REAR PANEL	1	EX77EG ⚠
27	RGR0365J-X1	REAR PANEL	1	EX77EC,EC1 ⚠
27	RGR0365J-Q1	REAR PANEL	1	EX77EB ⚠
27	RGR0365J-S1	REAR PANEL	1	EX87EG ⚠
27	RGR0365J-W1	REAR PANEL	1	EX87EC,EC1 ⚠
27	RGR0365J-T1	REAR PANEL	1	EX87EB ⚠
28	RKA0144-K	FOOT RUBBER	4	
29	RYP1373-K	FRONT PANEL ASS'Y	1	EX77EGK,ECK,EC1K
29	RYP1373-S	FRONT PANEL ASS'Y	1	EX77EGS,ECS,EC1S
29	RYP1373C-K	FRONT PANEL ASS'Y	1	EX77EBK
29	RYP1373C-S	FRONT PANEL ASS'Y	1	EX77EBS
29	RYP1373E-K	FRONT PANEL ASS'Y	1	EX87EG,EC,EC1
29	RYP1373H-K	FRONT PANEL ASS'Y	1	EX87EB
29-1	RKF0787R-S	DOOR	1	EX77EGS,ECS,EC1S
29-1	RKF0787R-K	DOOR	1	EX77EGK,ECK,EC1K
29-1	RKF0787S-S	DOOR	1	EX77EBS
29-1	RKF0787S-K	DOOR	1	EX77EBK
29-1	RKF0787K-K	DOOR	1	EX87EG,EC,EC1
29-1	RKF0787L-K	DOOR	1	EX87EB

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
29-2	RKF0786C-K	TRAY DOOR	1	
29-3	RYF0814C-K	FL WINDOW ASS'Y	1	EG,EC,EC1
29-3	RYF0814D-K	FL WINDOW ASS'Y	1	EB
29-4	RMZ0911	FL BARRIER SHEET	1	
29-5	RGV0364-K	DOOR KNOB	1	EX87
29-6	RMB0871-1	BLINDER SPRING	1	
29-7	RGQ0485-K1	TRAY DOOR CUSHION	2	
30	VWJ1941	DIGITAL-HDD FFC	1	
32	RMX0286	PCB SPACER	1	
33	L6FAJDAE0002	FAN MOTOR	1	
34	RFKB77112B	BACKEND P.C.B.	1	(RTL)EG
34	RFKB77112C	BACKEND P.C.B.	1	(RTL)EC,EC1
34	RFKB77112A	BACKEND P.C.B.	1	(RTL)EB
36	RMQ1612	HEAT TRANSFER SHEET	1	
37	RMQ1614	HEAT TRANSFER SHEET	1	
38	VMX1336	MINI CARD SPACER	2	
39	RMX0361	PCB SUPPORT	1	
40	RMX0393	FRONT SPACER	1	
41	RFKNEX77EG	RAM/DIGITAL P.C.B. MODULE	1	(RTL)EX77EG
41	RFKNEX77EC	RAM/DIGITAL P.C.B. MODULE	1	(RTL)EX77EC,EC1
41	RFKNEX77EB	RAM/DIGITAL P.C.B. MODULE	1	(RTL)EX77EB
41	RFKNEX87EG	RAM/DIGITAL P.C.B. MODULE	1	(RTL)EX87EG
41	RFKNEX87EC	RAM/DIGITAL P.C.B. MODULE	1	(RTL)EX87EC,EC1
41	RFKNEX87EB	RAM/DIGITAL P.C.B. MODULE	1	(RTL)EX87EB
A1	K2KA6BA00003	AV CORD	1	
A2	K1TWACC00001	RF COAXIAL CABLE	2	
A2	K1TWACA00001	RF COAXIAL CABLE	1	EB
A3	N2QAYB000128	REMOTE CONTROLLER	1	EG
A3	N2QAYB000129	REMOTE CONTROLLER	1	EC,EC1
A3	N2QAYB000127	REMOTE CONTROLLER	1	EB
A3-1	100300035100	BATTERY COVER	1	
A4	RJA0043-1C	AC CORD	1	EG,EC,EC1 ⚠
A4	K2CT3CA00004	AC CORD	1	EB ⚠
A5	RPQD0003	PAD(C)	1	
A6	RPQFD0008	ACCESSORY BOX	1	
A7	RPFD0005-1	POLYETHYLENE BAG	1	
A8	RQT8860-L	OPERATING INSTRUCTIONS	1	(IA)EG,EC,EC1
A8	RQT8861-D	OPERATING INSTRUCTIONS	1	(IB)EG
A8	RQT8862-V	OPERATING INSTRUCTIONS	1	(IC)EC
A8	RQT8863-E	OPERATING INSTRUCTIONS	1	(ID)EC1
A8	RQT8864-M	OPERATING INSTRUCTIONS	1	(IE)EC
A8	RQT8866-B	OPERATING INSTRUCTIONS	1	(IF)EB
A9	RP-CDH10BLH	HDMI CABLE	1	EC,EB
PC1	RPG8183	PACKING CASE	1	EX77EGS
PC1	RPG8298	PACKING CASE	1	EX77EGK
PC1	RPG8184	PACKING CASE	1	EX77ECS
PC1	RPG8300	PACKING CASE	1	EX77ECK
PC1	RPG8325	PACKING CASE	1	EX77EC1S
PC1	RPG8326	PACKING CASE	1	EX77EC1K
PC1	RPG8185	PACKING CASE	1	EX77EBS
PC1	RPG8299	PACKING CASE	1	EX77EBK
PC1	RPG8302	PACKING CASE	1	EX87EGK
PC1	RPG8303	PACKING CASE	1	EX87ECK
PC1	RPG8327	PACKING CASE	1	EX87EC1K
PC1	RPG8304	PACKING CASE	1	EX87EBK
PC2	RPFD0004-1	MIRAMAT BAG	1	
PC3	RPN1969-1	CUSHION	1	
PC4	RPN1985-1	FRONT PAD	1	
PC5	RPQ2286-1	TOP PAD	1	EC